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ABSTRACT

Intended for teachers of the gifted, the book contains a compilation of teacher-developed units written for use with students from preschool through high school. Units are divided into four sections: one for each of four theoretical models--Bloom's Taxonomy of Educational Objectives, Guilford's Structure of the Intellect, Taylor's Multiply Talents Model, and Williams Model for Implementing Cognitive-Affective Behaviors in the Classroom. Each model is explained in introductory sections preceding unit activities. A Potpourri unit is also provided. Units in each section are noted to illustrate how the model could be the structure for the curriculum. Subjects covered by unit activities include the following: pets, transportation, work in the kitchen, science laboratory, creative problem solving, archaeology, history of timekeeping, astronomy and space travel, mythology, age of chivalry, art appreciation, creative problem solving through art, and law instruction. (SBH)

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# "MODEL" UNITS FOR THE GIFTED

This book is a compilation of selected units from TAG (The Association for the Gifted) Classroom Teachers' Committee members, regular classroom teachers, teachers of the gifted and teacher trainees. The units are based on four theoretical models and the book is divided into these four sections, plus a potpourri section. As the Table of Contents indicates, these units are written for students from preschool through high school.

We wish to thank the many people who did contribute their time and talent to this book. Their willingness to share their ideas is appreciated.

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# INTRODUCTION

Renzulli (Barbe & Renzulli, 1975) conducted a study to determine what authorities in gifted education felt were the key features in programs for the gifted. These would be those characteristics necessary to provide a successful differential education for the gifted. The nationwide survey listed "The curriculum: purposely distinctive" as the second most important feature. Renzulli goes on to clarify this feature stating:

> The careful development of distinctive syllabi, methods and materials will help guard against a fragmentary of 'more of the same' conception of differential education.

This publication of the Classroom Teachers' Committee of TAG is meant to help the teacher of the gifted develop a differentiated curriculum through the use of four theoretical models. The use of models such as these have distinct advantages in planning for the gifted.

First of all, these models cover a range of levels of thinking and include the higher levels of thought processes that the gifted child needs. If a curriculum is to flow from the characteristics of the student, then gifted students need to have activities that call upon their ability to think abstractly, to reason, to solve problems and to find cause-effect relationships. To have a distinctive curriculum, the teacher of the gifted must deliberately attempt to reach these higher levels of the models. Bloom (Bloom et al., 1956) states that using a taxonomy can help the teacher gain a perspective on what behaviors are being emphasized in an educational plan. The teacher of the gifted needs to gain a perspective on what behaviors s/he is emphasizing in the curriculum.

The curriculum should be an outgrowth of the philosophy of the program for the gifted. Philosophy and statement of objectives are another key feature mentioned in the Renzulli study. A theoretical model can help provide a rationale for the curriculum in relationship to the stated philosophy and objectives of the program.

Another key feature of a gifted program is evaluation. As Bloom pointed out, using a taxonomy or model should aid in developing evaluation devices. These theoretical models help specify objectives and behaviors that in turn can be evaluated if clearly defined. These models can also serve as a vehicle for writing individual education plans for these exceptional students. The structure of a model should allow for curriculum and activities that meet individual needs as well as group characteristics of gifted.

Finally, the use of a theoretical model provides an umbrella for the curriculum of a gifted program. Programs for the gifted are often accused of lacking form or continuity or of being essentially what the regular classrroom teacher is doing. By planning around a model, the teacher of the gifted should be able to organize the activities into a meaningful whole. Developing units around models, such as those found in this book, would help the teacher of the gifted communicate what s/he is doing to the regular classroom teacher, the administrators, the parents and the students. It all needs to "come together" and curriculum based on a model appears to facilitate this.

Four theoretical models are discussed in this book, but they are by no means the only models available. Selection of a particular model would require a careful examination of program philosophy and objectives, of teacher abilities and of student needs. The units in each section were included to illustrate how the model could be the structure for the curriculum. An added advantage of writing up units such as these is that they can be shared with other teachers of the gifted in your area and with those around the nation. We would encourage you to share your units through the Classroom Teachers' Committee of TAG!

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## BLOOM'S TAXONOMY OF EDUCATIONAL OBJECTIVES: COGNITIVE DOMAIN

Bloom's taxonomy is familiar to many of those trained to be teachers. It was the culmination of many years' work by many educators and was one of the earliest taxonomies.

Basically, the cognitive domain taxonomy deals with six levels: knowledge, comprehension, application, analysis, synthesis and evaluation. The definitions for these levels included here come from the condensed version in the appendix of the book by Bloom and others. Those interested in further specific development of these levels are referred to this book listed in the bibliography.

Knowledge: involves the recall of specifics and universals, the recall of methods, processes or the recall of a pattern, structure or setting.

Comprehension: refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other materials or seeing its fullest implications.

Application: use of abstractions in particular and concrete situations.

Analysis: the breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expressed are made explicit.

Synthesis: The putting together of elements and parts so as to form a whole. This involves the process of working with pieces parts, elements, etc. and arranging and combining them in such a way as to constitute a pattern or structure not clearly there before.

Evaluation: Judgments about the value of material and methods for given purposes. Use of a standard of appraisal. The criteria may be those determined by the student or those which are given to him.

Two of the units included in this section are for preschool gifted, but they could easily be adapted to primary age children. The third unit is for intermediate age students, and these students are made aware of what the levels are and how the activities are based on the different levels of thinking. The students themselves, then, have a better understanding of the curriculum and can serve as "communicators" for your program.

# LEARNING PACKET - PETS
## PRESCHOOL UNIT
## Developed According to Bloom's Taxonomy
Presented by: Gail Hanninen

### Level I. Knowledge

1. A. Activity:

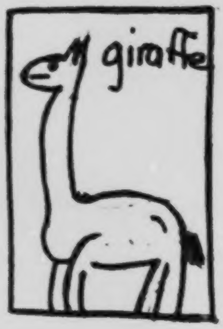
To distinguish between wild animals and tame animals.

B. Procedure:

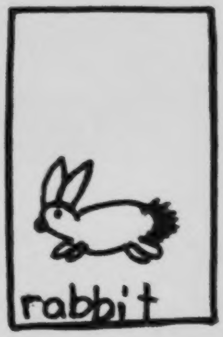
Using magazines, e.g. The National Geographic, have the child cut out pictures of both wild and tame animals. Then have him compile two little books; 1. My Wild Animal Book, 2. My Tame Animal Book: by pasting the appropriate animals in each book and discussing why he would gain the knowledge of wild vs. tame.

Sample Pages:

My Wild
Animal Book



My Tame
Animal Book



2. A. Activity:

To have the knowledge of what makes a good pet.

B. Procedure:

Read the story, "My Mother Won't Believe This!", and discuss the aspects of bad pets, e.g. lions, elephants vs. those of good pets, e.g. puppies, goldfish.

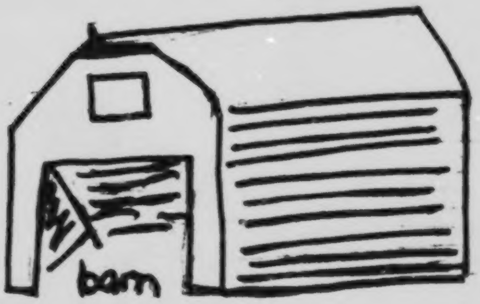
Level II. Comprehension

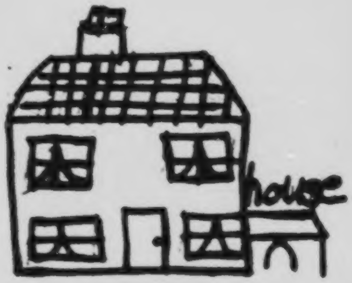
1. A. Activity:

To differentiate between domesticated-tame animals and house pets; and verbalize why they are different.

B. Procedure:

Using shoe boxes, have the child make a barn and a house (contruction paper will help also).





Then, with teacher-made stand-up cardboard animals, the child must place the animals in the appropriate domicile.

Suggested animals:

Farm: Cow, pig, horse, sheep, rooster, bull, chickens.

Housepets: Dog, cat, bird, rabbit, fish, gerbil, hamster.

pig
cat
bird
sheep etc

Level II. (cont.) Comprehension

3. A. Activity:

To have the child illustrate the perfect pet from a physical point of view.

B. Procedure:

Taking pictures from magazines and tactile materials such as fur, cloth, yarn, rope, plastic pipe, have the child make a composite collage pet. Help him identify the features from individual pets that he likes best to compile a 'perfect pet'.

E.G. A child may like the size of a collie dog, but the feel of a persian cat. He may decide curly-cew tails of pigs are fun, and rabbit ears look good, etc. From this you will have gleaned an insight into your child's interests and also have provided an outlet for potential creativity.

Level III: Application

1. A. Activity:

To have the child choose a personal pet using his knowledge of characteristics tc help him make his choice.

B. Procedure:

Ask child - "How would you decide which pet you would want, choose one and tell why you chose it", e.g.

A poodle because its small.
A fish because it doesn't need to eat a lot.
A bird because I could listen to him sing.
A bulldog because he could protect me.

Make a list of other pets and tell how they would be good.

2. A. Activity:

To have the child demonstrate using creative dramatics how he would train a dog to sit, come, roll over, play dead, speak etc.

B. Procedure:

Have one child assume the identity of a puppy and the other of an owner - have them role play a series of situations in which the owner attempts to train his dog to perform various tricks, etc. Have the children demonstrate their acts to the other children.

## Level IV Analysis

1. A. Activity:

To classify various types of pets into four categories, i.e. put all the various stains of dogs under dogs, similarly for cats, fish, and birds, (only those commonly considered pets).

B. Procedure:

Use the 'fishing' game to provide some fun in this activity. The child should have a short pole and line to which is attached a paper clip. He casts his line over a divider, where the teacher attaches the picture of various types of pets.

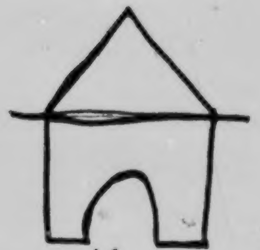
e.g.

| A. Dogs | B. Cats | C. Birds | D. Fish |
|---|---|---|---|
| Poodles | Manx | Parrot | Guppy |
| Bull dogs | Siamese | Myna | Angelfish |
| St. Bernards | Pursian | Canary | Goldfish |

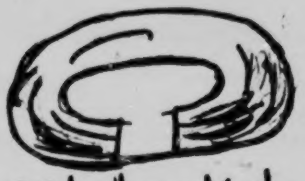
The child then must place his catch in one of a:

a. dog house or kennel b. cat basket c. bird cage d. fish bowl or aquarium

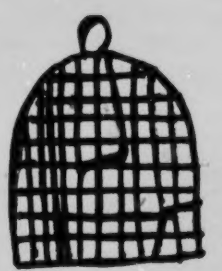
These are made of cardboard.



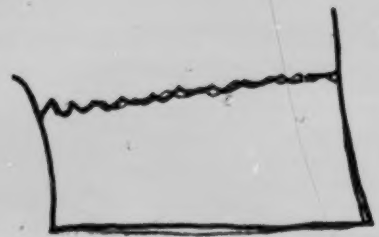
dog House



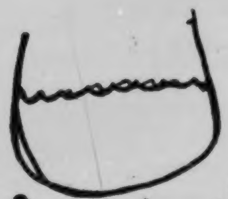
cat basket



bird cage



aquarium



fish bowl

Level IV (Cont.) Analysis

2. A. Activity:

Child will explain why pets and children are often friends.

B. Procedure:

Using the Peanuts comic strips, read to the child the ones involving Snoopy (the dog) and Charlie Brown or other children. Using the situations provided by Shultz, discuss with the child what makes Snoopy Charlie's friend and vice versa. Then provide new strips without the dialogue and have the child determine from the pictures and his own imagination, the discourse between Man's best friend and a five year old boy.

## Level V. Synthesis

1. A. Activity:

To formulate solutions to the problems of animals in an urban setting, i.e. within towns and cities.

B. Procedures:

Dramatize these problems by use of a felt board and felt backed characters:

e.g. 1. Dogs run around and get into garbage which spills all over.

2. Dogs bite mailmen and bark at passersby.

3. Dogs dig up gardens and yards.

4. Dogs and cats make messes by going to the bathroom on the street.

After having dramatized a problem, discuss possible solutions, and then have the child dramatize these:

e.g. 1. Tying up dog or fencing yard and then excercising dog on a leash.

Level V. (cont.) Synthesis

2. A. Activity:

To create a pet for the future from paper mache'.

B. Procedure:

Create a hypothetical future situation in discussion with the child, e.g. All people might be underground with no space and little water and food; or people might live in apartment houses, i.e. no one would have yards.

Then with the child talk about how certain animals would be unsuitable and let children with paper mache' create a suitable pet for the described situation.

3. A. Activity:

To put together a matching list of people and pets that either look alike or resemble each other in temprament.

B. Procedure:

Discuss with child the humerous aspects of how people choose or become like their pets. Have children cut out pictures from magazines of pets and people, e.g. A wrestler and a Bulldog, A little old lady and a poodle, etc.

Level IV Evaluation

1. A. Activity:

Judging what constitutes the best pet: The best dog, cat, bird, fish, etc., and telling why.

B. Procedure:

Give the child a tape recorder and have him tell the above in his own words into the tape.

2. A. Activity:

Defend the proposition that planned pet population growth is needed.

B. Procedure:

Bring into the classroom a representative from the humane society, who will show to the entire class a movie on pet care and pet population expansion.

Using the information gleaned from this contact, have the child make a family tree showing the population growth of cats, (given that every female cat has one litter). One cat will multiply to 64,000 in approximately three years. Discuss the ramifications of the above with the child.

UNIT: TRANSPORTATION - Pre School Unit
Presented by: Judith Leonard

| LEVEL | MODEL OBJECTIVE | Sample OBJECTIVE |
|---|---|---|
| (Knowledge)<br>The knowledge level requires the ability to reproduce information by recognition or recall. | 1. The child will be able to name items which belong in the unit category, when asked, "What is this?" and shown picture or object. | 1a. Child will name items in unit category of transportation, when shown picture or object, and asked. "What is this?" or<br>1b. Child will point to picture or object out of group, when asked, "Show me" or "Find the car."<br>Items include:<br>- car<br>- train<br>- truck<br>- airplane<br>- bicycle<br>- helicopter<br>- motorcycle<br>- fire engine<br>- police car<br>- bus<br>- motorboat<br>- sailboat<br>- ship |
|  | 2. The child will be able to repeat a simple rule for classifying something in the unit category. | 2. The child will be able to repeat a simple rule for classifying things that belong in the transportation unit.<br>Sample rules:<br>1. Vehicles are things you ride.<br>2. Things you can ride are transportation. |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
| (Comprehension)<br>The comprehension level requires the ability to understand information demonstrated by reorganizing, paraphrasing or explaining. | 1. The child will be able to explain a rule for the unit. | 1. When asked, "What is a vehicle?" or "What is transportation?", child should be able to tell that vehicles are "things that you ride." |
| | 2. The child will be able to demonstrate, when given a rule, understanding of a unit, by selecting those that fit within that unit. | 2. When given the direction, "Find all of the things you can ride," the child will select all vehicles pictured or present. |
| | 3. Given a simple analogy format, the child will be able to demonstrate understanding of a particular classification scheme by naming items that belong. | 3. Given an analogy such as, "You can ride in a car, you can also ride in a ______," the child will supply the name of something you ride in. |
| | 4. Given a familiar member of a unit, the child will be able to show or describe how it can be used according to the rule or definition for that unit. | 4. Given something you can ride on, child will describe or demonstrate how it can be used to take you someplace. |
| | 5. Given familiar members of a unit, the child will be able to group items according to specified dimensions. | 5. Given a mural or drawing with sky, land (roads, etc.), and water, child will place vehicles or pictures on appropriate spaces. |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
| (Application)<br>The application level requires the ability to use (learned) information (methods, rules, or abstractions) in appropriate situations where no mode of solution has been specified. | 1. Child will demonstrate understanding of a given unit by selecting out of a group of pictures or items, those that fit within the unit, with no rule given. | 1. Give the direction, find all the "things you can ride," the child will be able to select all vehicles out of a group of pictures or objects. |
| | 2. Given an unfamiliar object that could easily fit within a given category, the child will be able to decide if it fits in that category. | 2. When asked, "Could you ride this?" regarding unfamiliar items, child will be able to choose those that could logically be classified within the transportation items. |
| | 3. Given pictures of items within unit, child will be able to sort according to new and more complex dimensions. | 3. After experience in sorting pictures of "things we ride" into basic categories (e.g., things that go in air/water/sea), child will be able to sort according to a new dimension (e.g., fast and slow). |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
| (Analysis)<br>The analysis level requires the ability to identify component parts, relationships among elements, and basis for organization of whole. | 1. Given an object or shown a picture the child will be able to tell what it is about that item that makes it a member of a given category, and either why or how. | 1. When asked, why is a bus a transportation vehicle, child will be able to give some attribute of a bus that makes it a good vehicle. |
| | 2. The child will be able to associate or disassociate members of a category, given cues to assist in answering. | 2a. Given a picture providing cues, child will be able to answer, "How are a bus and a car the same?" (Child might be shown picture with both traveling on a road.)<br>2b. In answer to a question such as, "How are a sailboat and a motorboat alike?" child will provide more detailed response, than "You ride in them both." |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
| (Synthesis)<br>The synthesis level requires the ability to uniquely organize ideas and materials or discover a unique relationship not readily apparent. | 1. Child will be able to select objects of the same category, given no cues. | 1a. Child will find two that are alike, given a group of pictures or objects.<br>1b. Child will describe why he chose them as being the "same". |
| | 2. Child will be able to give verbal answer to explain similarity of two items | 2. Child will answer, "How are a jet and a helicopter alike?" |
| | 3. Given an unfamiliar member of a given category, the child will be able to think and show or describe a possible way to use it according to the rule for that unit. | 3. When shown an unfamiliar vehicle, child will be able to tell or show how it could be a vehicle when asked, "How could this be ridden?" |
| | 4. The child will produce a plan, including several steps, to decide whether something would be good to ride. | 4. Child will give at least two steps of a plan to use in deciding if something is a vehicle or not. |
| | 5. Given unfamiliar materials, or familiar materials not ordinarily combined in a fixed manner, child will organize them into a unit member. | 5. Given materials such as wood, nails, hammer, cardboard, scissors, etc., child will design "something to ride in". |
| | 6. Given familiar pictures of unit members child will sort into 2 overlapping categories, by placing in either Category A, Category B (a second, discreet category) or the overlapping area including items with both attributes. | 6. Given familiar pictures of "things to ride" child places them in hoop of things that go on land, in the hoop containing things that go fast or in the overlapping area of things that go fast and travel on land. |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
|  | 7. Child will be able to answer questions presented in a "what would happen if......' format. | 7. Child will be able to give a logical answer to questions such as:<br>a. What would happen if there were no boats?<br>b. What could happen if you combined a boat and a plane? |

| LEVEL | MODEL OBJECTIVE | SAMPLE OBJECTIVE |
|---|---|---|
| (Evaluation)<br>The evaluation level requires the ability to judge value for some purpose against criteria and standards, including making comparisons and stating reasons for decision. | 1. Given a specific criterion, child will be able to choose best item. | 1. In answer to questions such as the following, child will select appropriate vehicles:<br>a. Which goes the fastest?<br>b. Which would be best to take if you weren't able to drive?<br>c. Which would be best if the whole class wanted to go to the zoo? |
| | 2. Given several alternative reasons why an item might be best suited to a particular purpose, child will select an appropriate reason. | 2. Given a choice, child will select reason such as "because it holds many people" in answer to "why is it good to use a school bus for the whole class to go to the zoo?" |
| | 3. Child will give reason for his own or given selection of an item for a certain purpose. | 3. Child will give answer and logical reason to question such as "what is good to ride to a fire in?" |

## KITCHEN CENTER - Intermediate Learning Center
Presented by: Betty Lou Cummings

### OBJECTIVES

1. To allow each child an opportunity to actually work in a kitchen, using self-selected tasks.
2. To learn responsibility for completing a task.
3. To make the children more aware of all the various aspects of the culinary art, including types of foods, methods of cooking, math involved in recipe changing, importance of cleanliness, etc..

### FOCUS

Self-initiated cooking activities with little or no direct adult intervention.

### MATERIALS NEEDED

Hot plate, portable oven, pans, spoons, spatulas, measuring cups, Betty Crocker Children's Cook Book, source of water, hot pads, frying pan, etc.

### KNOWLEDGE LEVEL TASK CARDS POCKET I

| | |
|---|---|
| Task Card 1 | Learn about the following terms. Choose a partner and test each other on the meaning of the terms.<br>Beat, bake, fry, boil, melt, knead, whip, garnish, shred, dice, broil, mince, drain, toss, stir, pare, cube, blend. |
| Task Card 2 | Make a chart showing the five basic food groups. |
| Task Card 3 | What is a calorie? Now, do Analysis Task Cards #4 and #5. |

## COMPREHENSION LEVEL TASK CARDS POCKET II

| | |
|---|---|
| Task Card 1 | Do one Tic Tac Dough Square (see attached page). When you have completed it, mark the square with an X and your name. As soon as all nine squares are X'd and signed, we will begin our group cooking project. |
| Task Card 2 | How many ounces are there in: a pound, a cup, a tablespoon, a cube of butter |
| Task Card 3 | Describe: grate, fold in, coddle, marinate, sear. |

## APPLICATION LEVEL TASK CARDS POCKET III

| | |
|---|---|
| Task Card 1 | Dry it - you'll like it!<br>Obtain a bunch of good seedles grapes. Dry them. How? Keep a log of your method and how long it takes for the grapes to dry. Write detailed observations.<br>What is your resultant product called? Did you know before you started the name of your result? |
| Task Card 2 | Dry it - you'll like it!<br>How would you go about drying fresh mushrooms from the store? Write your plan, and after conferring with the facilitator, obtain mushrooms from a store and dry them. Then store them in an acceptable, clean container for our use later in the year. NOTE: The dried mushrooms will be used to make cream of mushroom soup. |

## ANALYSIS LEVEL TASK CARDS POCKET IV

| | |
|---|---|
| Task Card 1 | Find out why water boils at approximately 198° here, at |

approximately 204° in Phoenix, and at approximately 212° at sea level.

Task Card 2 Compare three measuring cups. If they differ, how will this affect recipes?

Task Card 3 Learn about the water displacement method of measuring solids. Demonstrate this for the class.

Task Card 4 Show on a chart the caloric content of each of the following: 1 slice whole wheat bread, 1 orange, 1 Hershey candy bar, and four other foods you like to eat.

Task Card 5 Explain the value of knowing the caloric content of various foods.

## SYNTHESIS LEVEL TASK CARDS POCKET V

Task Card 1 Food Riddles

1. What country has a good appetite? (Hungary)
2. What country is popular on Thanksgiving Day? (Turkey)
3. What country does the cook use when frying? (Greece)
4. What country is useful when setting the table? (China)

Task Card 2 Design a menu of foods that would require NO COOKING.

Task Card 3 Design a menu of foods indigenous to one country (or to a section of America)

Task Card 4 Combine two single recipes to make one new, really exotic food.

EVALUATION LEVEL

Evaluation Form - Task Card #_____

What I had to know before doing this task -

________________________________________

________________________________________

________________________________________

Procedure I used: ______________________________

________________________________________

My partner was: ______________________________

Others in my group were: __________________________

________________________________________

| | Great | Good | Fair | Not so good | Poor |
|---|---|---|---|---|---|
| The product of my cooking was: | | | | | |

What I learned: ______________________________

________________________________________

________________________________________

________________________________________

________________________________________

____________________ Your Signature

____________________ Teacher's Initials

## KITCHEN CENTER

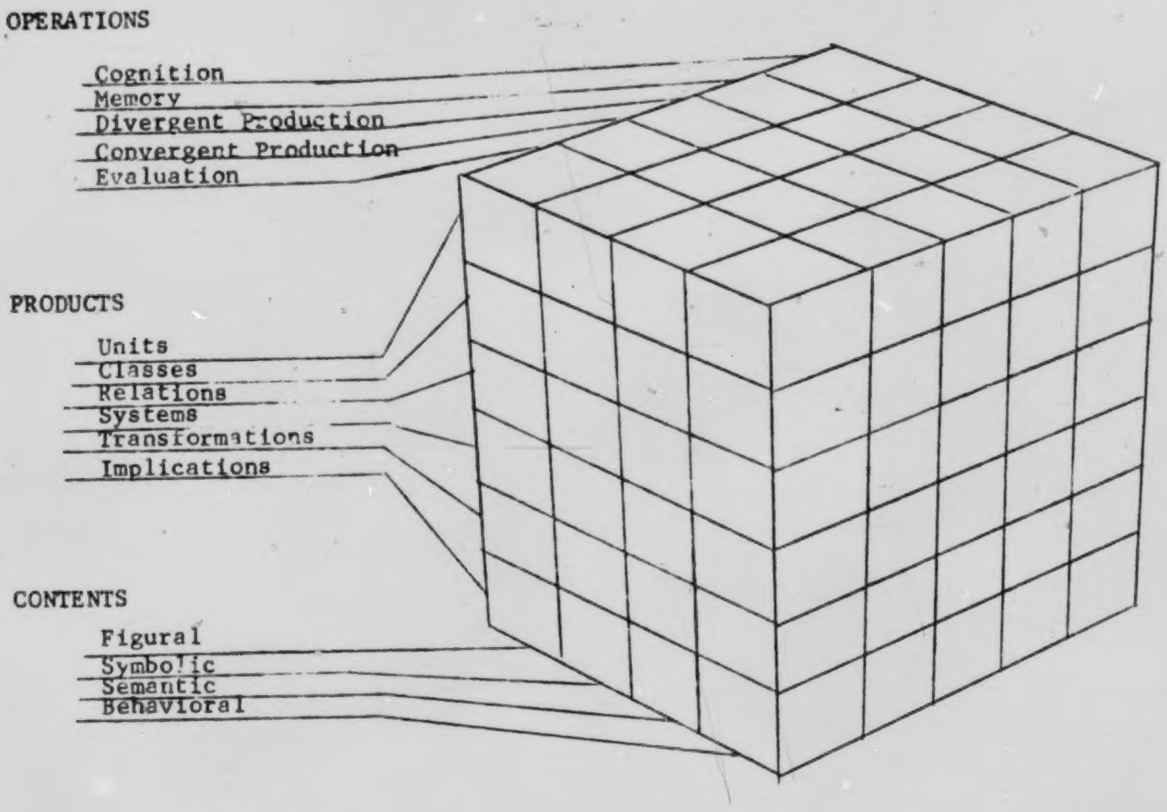
| TIC | TAC | DOUGH |
|---|---|---|
| Research four different ways of making bread or crackers. | Find out why water boils at a lower temperature in Flagstaff than in Phoenix. Learn how to compute the difference. | Make a list of edible wild foods and where one can obtain them. |
| Grow a vegetable. Make a recipe using this vegetable. Serve it to the class. | FREE<br>You decide what to do here! | Collect news articles dealing with foods. |
| Write a poem about an unusual fruit or vegetable. | Write a TV script for a cooking lesson. Present it for the class. | Research foods eaten in a country of your choice. Cook one of them. |

AT THIS CENTER YOU WILL:

1. Learn more about cooking.
2. Learn about weights and measures.
3. Learn various facts and fallacies about foods.
4. Learn how to preserve foods.

(Idea adapted from Kaplan, Sandra et al., Change for Children.)

# GUILFORD'S STRUCTURE OF THE INTELLECT (SOI)


OPERATIONS
Cognition
Memory
Divergent Production
Convergent Production
Evaluation
PRODUCTS
Units
Classes
Relations
Systems
Transformations
Implications
CONTENTS
Figural
Symbolic
Semantic
Behavioral

## GUILFORD'S STRUCTURE OF THE INTELLECT (SOI)

In the late 1950's, J. P. Guilford began formulating the structure of the intellect theory and eventually put the theory into into this familiar three-dimensional cube. This model was designed to encompass and organize intellectual-aptitude factors, as well as predict unkown factors. Even now each cell is not completely defined.

Although the model illustrates the existence of distinct factors, Guilford felt that these factors fell into three classifications: operations, contents and products.

The first classification, operations, is according to the basic kind of process or operation performed. There are, according to Guilford's model, five major groups of intellectual abilities: factors of cognition, memory, convergent thinking, divergent thinking and evaluation. Since the units included in this section are based mainly on the operations of this model, these are more fully defined below:

Cognition: includes understanding, discovery, rediscovery, awareness and comprehension.

Memory: Retention and recall of knowledge in the form in which it is used.

Convergent thinking: Use information to generate a single, correct or best answer; unique at least to the individual who produced it.

Divergent thinking: Imaginative, spontaneous, fluent self-expression.

Evaluation: Regulator of all other operations; make judgments based on some criterion or set of criteria.

The intellectual factors are further classified by the kind of material or content involved and these four factors are: figural, symbolic, semantic and behavioral. The third classification of factors results when an operation is applied to a certain kind of content. The six kinds of products resulting are: units, classes, relations, systems, transformations and implications.

In an article Guilford (1959) discusses the implications for education, stating that the use of this model might lead to a different conception of the learner and the process of learning. Guilford felt educators might begin to view the learner as an agent for dealing with information rather than as a stimulus-response machine. This model might also lead to the idea that learning is discovery of information, not merely the formation of associations. In addition, he stressed that the model might bring about a better understanding of the higher mental processes, problem solving and creative thinking.

The units following are planned around the Guilford model. Each step of the actual activities section is labeled as to the operational level on which the teacher expects the students to operate. As illustrated, this model can be used with all age levels in a variety of subject matter.

# THE LABORATORY - A Unit on Science for Primary Children

Presented By: Linda Benware

OVERALL PURPOSE: To acquaint the children with the experimental nature of science; how to approach the unknowns of science; and how to evaluate what we have attempted.

**Note: Number next to each activity indicates level of operation as follows:

(1) Cognition
(2) Memory
(3) Convergent
(4) Divergent
(5) Evaluative

## LESSON #1 - Exploring the Unknowns

Today's Objective: The children will identify the five unknowns given to them, then check their results and evaluate the procedures they used.

Activities:

1. Present the children with the five unknowns. (Salt, sugar, flour, baking soda, powdered milk) The teacher will explain that we are going to identify them. (1)

2. Allow brainstorming as to how we might identify them. (4)

3. Give the unknowns to the children instructing them to use their ideas to find out what the unknowns are. (3)

4. Present questions:
   - A. How did you arrive at your conclusions? (2)
   - B. Did the same method work for each unknown? (2)
   - C. If you did this experiment again, would you alter your approach? (5)

Follow up and assignment: Try this again at home, with your parents' approval; add other unknowns.

Evaluation: This lesson was
_____Satisfactory, would use again
_____Satisfactory, with some modifications
_____Passable, with major modifications
_____Unsatisfactory - Why?

Comments:

## LESSON #2 - Just Supposing

Today's Objective: To present activities that will help the children explore the cause-and-effect reasoning which is basic to all scientific investigation.

Activities:

1. Give the children several grades of sandpaper and a block of wood; give them the chance to hypothesize the results of each grade of paper on the wood. (4)
   Discuss what actually happened. (3)
2. Give the class crumbly rocks, cloth and a hammer. Let children break the rocks to a near soil condition; ask what we did to change the nature of the item we began with. (3)
3. Give the class ingredients to make playdough (flour, water, salt and food coloring). Observe the changes in the ingredients as they are mixed. (3)
4. Drawing from our observations, discuss the overall application of the cause-and-effect reasoning in science. (4)

Follow up and assignment: Try to observe more cause-and effect relationships during the week.

Evaluation: See Lesson #1

## LESSON #3 - A Piece of the World

Today's Objective: Through direct experiences the child will develop the concept of interdependence in nature.

Activities:

1. Take the children outside to look for a plot of ground where we might dig up a piece of sod to bring to the lab to examine. (1)
2. Allow the children time to explore their piece of ground; let them discuss what they have found and compare with the plot of a friend. (1,3)
3. Hypothesize as to the effects of missing elements - what if an insect ate all the roots? What if all the soil became rocks? (4)

Lesson # 3 (Cont.)

4. Ask the children if any element can be eliminated. (5)

5. Discuss the conclusions we can make as to the interdependence of the elements. (3,5)

Follow up and assignment: The class next time will deal with rock activities. Look at some rocks, bring some to class - think about what they really are and how we use them.
Evaluation: See Lesson #1

## LESSON #4 - Rock Activities

Today's Objective: The children will make observations of size, shape, color, and texture of rocks to help them acquire some basic knowledge of their environment.

Activities:

1. Take the class for a rock walk. (1)

2. Allow the children to relate facts they know about rocks or their own rock collections. (2)

3. Ask questions: How do you think this rock got to the school ground? Where could it have been before we found it? (3,4)

4. Return to the classroom to make mosaics with our rocks and plaster of paris. (1,4)

Follow up and assignment: Look for more interesting rocks and observe where you find different types of rocks.

Evaluation: See Lesson #1

## LESSON #5 - Flapjack Chemistry

Today's Objective: The children will cook to observe chemical change and see the relationship of the ingredients to the final product.

Activities:

1. Use standard pancake recipe. Measure the ingredients. (10

2. Allow each child the opportunity to hypothesize the results if we left out some of the ingredients of changed them. (4)

Lesson #5 (Cont.)

3. Mix the ingredients and cook the pancakes. (1)
4. Encourage observation of the changes taking place and discuss these changes. (3)
5. Eat the pancakes. (1) Are they good? (5)

Follow up and assignment: Observe other changes that take place during cooking; try some cooking activities at home. (with parents' approval)

Evaluation: See Lesson #1

## LESSON #6 - A Home Away from Home

Today's Objective: To help the child set up a home away from home for small animals. This will give them the chance to examine important ecological relationships.

Activities:

Use gallon jar; dirt, sand, water, moss, rocks - whatever your animal (frog, salamander, sow bugs) needs to have in its habitat.

1. Ask the children what we need for survival? (3)
2. Can any changes be made to the basic needs of food, water, and shelter? (4)
3. Discuss how we might set up an environment for a small animal so that we could observe his habits. (1,3)
4. Set up the terrarium. (1)
5. Discuss guidelines for care of the animal:(2,3,4)
    1. Never place the terrarium in direct sunlight. Why?
    2. See to it that the animal has fresh water each day. Why?
    3. Release the animal after about a week. Why?
    4. Why do you think an animal might be difficult to feed in captivity?
6. Ask the class to imagine they are the small animal in the jar. How would they feel, what would they need, would they feel useful? (4,5)

Follow up and assignment: Make observations during the week to share with the rest of the class next time.

Evaluation: See Lesson #1

## LESSON # 7 - How It Works

Today's Objective: To help the children understand what simple machines are, and how we use them in everyday life.

** Activities:

1. Place a book on the table; ask the children to think of as many ways as possible to move the book. (4) If the book was a stone that weighed several thousand pounds, which ideas would work best? (3) Discuss uses of the wheel. (2,4)

2. Ask the class to think of all the ways one might lift a heavy table. (4) Introduce the concept of the lever and allow the class to experiment with the concept. (1)

3. Propose the problem of moving a heavy object to a higher level, as a heavy stone to the table top. How can we do this? (4) Try the ideas using a heavy book and a chair. (5) Discuss the inclined plane. (1)

4. Make a paddle-wheel boat. (1) Ask the children if they can see which simple machines we discussed are utilized in the paddle-wheel boat. (5)

Follow up and Assignment: Try your boat at home and tell the class about your experiences.

Evaluation: See Lesson #1

**Set up a pulley and discuss possible uses. (2 & 4)

## LESSON #8 - The Air Around Us

Today's Objective: To help the children understand that air is real, has weight and takes up room even though it can not be seen.

Activities:

1. Initiate a discussion about air. How do we know that air exists? (4)

2. Ask the class if air weighs anything and if they can think of any ways to prove their hypothesis. (3,4) Conduct experiment with balloons to illustrate that air has weight. (1)

3. Ask the class which weighs more, warm or cool air. (3) Conduct experiment with paper bags to illustrate that warm air weighs less. (1)

4. Ask the class if air takes up room. (3) Ask if they can think of anytime before when they have seen air take up room. (2) Conduct experiment with glass and paper. (1)

5. Make parachutes.(1) Allow the children to play with them. Ask why the parachutes works better when it is open rather than when it is rolled up. (3)

Follow up and assignment: Try the parachute at home and see how objects of different weight will effect the fall of the parachute.
Evaluation: See Lesson #1

## CREATIVE PROBLEM SOLVING - by Susan Dattilo

OVERALL PURPOSE: To provide the students with opportunities to develop an awareness and knowledge of the concept of creativity. Also to provide experiences in developing, demonstrating, and experiencing creative problems and the impact on their lives.

### LESSON #1

TODAY'S OBJECTIVE: To introduce the children to one another and to me; and to help them develop their creativity through fluent, flexible and original thinking.

Activities:

1. Boundary Breakers - What game do you wish that you had invented? Pretend that you are something that is no longer useful - you are used up or worn out - what are you. (4)
2. Do an encounter activity called Jellybean Experience. It deals with the child's feelings of being a jelly bean. Ask questions such as: what color are you? Do you like being in a candy jar? How do you feel being the only red jelly bean in the candy jar? You are warm, moist and sticky - how do you feel? (4)
3. Have the children create colorful name tags, by writing their names on either small cards or on paper plates, and all around their names they could draw or write the activities that they do well, or that describe themselves. (1,4,5)
4. Do an activity called "Sticky Situations". It deals with problems or sticky situations. Your mom has lost her car keys, what do you do? You have locked yourself out of your house, what is your next move? You have forgotten to buy dog or cat food, what could you feed your pet? Your friend wants to copy your homework, how do you feel about this? (4,5)
5. If time permits, play The Name Game. The class sits in a circle. The teacher starts by saying, "I am Susan Dattilo." The first student to her right says, "I am Billy Coleman and that is Susan Dattilo." This process is continued around the circle. The second time around, each person must add something he is good at in addition to his name. For example, "I am bridge playing Susan Dattilo." And so on around the circle. (1,2)

FOLLOW UP AND ASSIGNMENT: Introduce the concept of brainstorming.

EVALUATION: Did the children feel free to give divergent answers to the problems? Did all the children participate?

### LESSON #2

TODAY'S OBJECTIVE: The children will work in groups evaluating the needs and problems of individuals different from themselves. The students will also participate in a creative writing and drawing exercise.

ACTIVITIES:

1. Boundary Breakers - If you could be something in a toy store, what would you be? If you could go anywhere in the universe, where would you go? (4)

2. Do an encounter activity called Earth - Visited by Martians!
    a. How did you get to Earth?
    b. What is the most interesting thing you have done or seen during your visit?
    c. What could we Earthlings do for you that would make your visit more enjoyable?
    d. If you have visited other planets, how does Earth compare to these places? Which planet do you like best?
    e. If you could take one thing back to Mars from Earth, what would you take?
    f. Now that you have visited Earth, would you like to live here, or are you going to return to Mars?
3. The children will divide into two groups of 4-5. Each group will get a copy of the "Land of it." The groups will have a specific amount of time to complete the directions on the sheet. One member of each group will present the group's lists to the rest of the class. (4,5)
4. The children will work individually creating their own "It." (4,5)
5. Each child can present his/her own "It " to the rest of the class. (4,5)
6. The children can share ideas regarding the needs and problems of each others' "It". (4,5)

EVALUATION: Did the children work well together? Did they create their own original "Its" or did they copy each other's ideas?

LESSON #3

TODAY'S OBJECTIVE: To introduce the students to Simulation Games - activities that simulate real life situations. Also to develop in the children the ability to arrive at a group solution to a problem.

ACTIVITIES:
1. Boundary Breakers - If you were a game, which one would you want to be? Also, if you could play a game with any person in the world, who would you want to play with? (4)
2. This "Lost on the Moon" game, is based on actual work performed by the National Aeronautics and Space Administration.
3. The group will set to work immediately trying to arrive at concensus as to how the items should be ranked. Rankings must represent agreement by all members of the group and may not be arrived at by simply taking a majority vote. (3,5)
4. Instructions:
    a. Read the problem explained on the distributed sheets.
    b. Your task is to solve the problem as a group.
    c. The only "catch" is that your answers must be agreed to by every member of the group. This will require that you spend a fairly long time talking over your ideas about each item and sharing any information you have that could help the group. While you should not be unduly stubborn, neither should you give in simply to speed up the work of the group. Often one hard-headed member can save an entire group from making a serious error.

# THE LAND OF IT

## Physical Make-Up

1. Some internal organs as humans
2. Head - shaped like a cube
3. Body - shaped like a larger cube
4. Arms - 12 inches in length
5. Legs - 12 inches in length
6. Same protoplasmic composition as humans
7. Can only bend at places where
    a. head attaches to neck
    b. arms attach to body (fingers can bend - hands can open and close)
8. Eyes open and close and see
9. Ears can hear.
10. Mouth can open and close - has teeth and tongue and lips
11. Nose has an opening so "It" can breathe
12. Hairless
13. Birth weight - about 6 pounds (Height - 1 foot)
14. Adult weight - 100 pounds ( Height - 5 feet)

## Mental Make-Up

I.Q.'s range from 80 to 150 (100 is average)

## Emotional Make-Up

Capable of all human emotions

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1. List 5 needs that the "Its" have.
2. How do they satisfy each of these needs?
3. What problems do they have that humans do not have? (List at least 5.)

## LESSON #4

TODAY'S OBJECTIVE: To complete the simulation activity that we introduced last session.

ACTIVITIES:

1. Boundary Breakers - If you had a key that would fit anything, where would you want your key to fit? And, if you had an extra hour in your day, what would you do with it? (4)
2. Re-distribute to the group the copies of the game, and re-read the problem with them (1,2)
3. Set the group to work. (3,4,5)
4. When they have made their final decisions, let one member of the group record the answers on a fresh copy of the problem, and compare it to the answers prepared by the NASA. (3,4,5)
5. Encourage the group to evaluate their performance. Raise questions about organizing, what roles different members played, and stumbling blocks encountered during the discussion. Then, focus on the difficulties inherent on arriving at complete agreement. (5)

FOLLOW UP AND ASSIGNMENT: Next week we will do another problem solving activity.

EVALUATION: Did the students enjoy the activity and did they gain skills in working as a group, and in trying to arrive at a group concensus of opinion?

## LESSON #5

TODAY'S OBJECTIVE: To find creative solutions to a problem, and to discover common attributes of inventors.

ACTIVITIES:

1. Boundary breakers - If you could invent a machine that would do something special for you, what would it be? And, what would you have liked to invent? (4)
2. Think of names for the following imaginary inventions (Renzulli, New Directions in Creativity) (4)
    a. Shoes that enable people to walk on water.
    b. A pen that never runs out of ink.
    c. A breakfast cereal made out of dandelions.
    d. A book that you eat when you finish reading it.
    e. A bicycle for midgets.
3. Make a list of major inventions which effect our lives. List inventors if known. (1,2)
4. What do most of these inventions have in common? (3,4)

FOLLOW UP AND ASSIGNMENT: Some inventions are very complex, some are very simple. Over the next week look around your house, class, etc. for inventions that you could have created.

EVALUATION: Were the youngsters able to develop creative solutions? Were they able to find common elements of inventions?

## LESSON #6

TODAY'S OBJECTIVE: To help each student develop forecasting abilities, he is asked to describe himself in a future situation. The children develop awareness of future problems and situations through knowledge of the present.

ACTIVITIES:

1. Boundary Breakers - If you could go back in time and assist any inventor in his work, who would you choose? And, what book have you most recently finished reading, for pleasure? (4)
2. Have the students respond to the following kinds of questions:
   a. When I grow up I would like to be...
   b. When I get older I would like to see...
   c. What will it be like for me in the next grade...
   d. What might I look like... (4,5)
3. Have the students draw a picture of the house they would like to own in the future, or the car, etc.
4. Have the students tell or write about things that are happening in the world today, that they think will affect their future. (5)
   a. The future of the school...
   b. The future of the family...
   c. What will be some jobs of the future...
   d. What about space travel...

FOLLOW UP AND ASSIGNMENT: Over the next week, think about the present and future needs of our society.

EVALUATION: Were the students able to project into the future, and did they enjoy the lesson?

## LESSON #7

TODAY'S OBJECTIVE: To identify cause and affect relationships. Also to reveal and explore some of the attitudes, beliefs and interests of the student.

ACTIVITIES:

1. Unfinished Sentences:
   a. If I had $50.00 I would...
   b. If I were 8 years older...
   c. My bluest days are...
   d. People can hurt my feelings most by...
   e. The most important person in my family is...
2. Diagnostic problems:
   a. My bicycle tire is flat--a block away I rode over a broken bottle and now the air pump won't work.
   b. Lost best friend's book--How would you tell him? You try to replace it/How?
   c. Your two best friends don't like each other--how would you you handle the situation.
3. Game of Buzz: The first player in line gets the order on a a card, whispers to second player and etc. through the line the last player writes order on the board.
   7 zinkos at $3.50
   5 digits at $6.69
   10 lapas at $2.50 and 3 zinkos at $4.50
   Analyze why information got garbled in the process.

FOLLOW UP AND ASSIGNMENT: Next week the class will do a pantomime.

EVALUATION: Did the students enjoy the activity and did they gain skills as a group? Did the children participate? Did they identify cause and effect relationship? Did they understand some of the problems that develop in relaying a specific idea to another and having that idea remain the same.

## LESSON #8

TODAY'S OBJECTIVE: To provide the youngsters with some experiences in pantomimes and with creative drama.

ACTIVITIES:

1. Boundary breakers - If you were to star in a TV show, which one would you star in? And what is your favorite food? (4)
2. Introduce the youngsters to the idea of simple, individual pantomimes (really charades). Each player can perform an action, while the others try to guess what is being done. Clarity of action is the most important concept here. (3,4,5) Examples:
   a. Paste stamp on letter.
   b. Open and close door.
   c. Pick up and dial telephone.
   d. Play marbles.
   e. Fly a kite.
3. This next activity is called Animal Actions. The players are secretly assigned the names of animals. In turn they act out the movements of these animals while the other players try to identify them. Players may act out the sounds, but they must do so in silence. (3,4,5) Examples:
   a. tiger (pace, growl)
   b. monkey (leap, scratch)
   c. horse (gallop, buck)
   d. dog (bark, sit up)
4. Paired Skits - Pairs of players act out these pantomime skits, with each act being announced. Actions should be both clear and funny. (3,4,5) Examples:
   a. Barber cuts hair of wriggling boy
   b. Doctor and patient
   c. Cowboy tries to rope wild horse
5. Strange speeches - A player merely pantomimes the act of giving a rousing speech. The more bounce and enthusiasm he puts into his act the better. He should make all sorts of wild gestures and exaggerated facial expressions. A performer should be given a brief spoken introduction. (3,4,5) Examples:
   a. How to stand on your head
   b. My cold trip to the North Pole
   c. Keep an elephant for a pet

## LESSON #9

TODAY'S OBJECTIVE: To reveal and explore some of the attitudes, beliefs and interests of the student; their values and who they are. Also to stretch the imagination of the student through role playing.

ACTIVITIES:

1. Unfinished Sentences:
    a. The thing that scares me the most...
    b. Someday I'm going to...
    c. The trouble with being honest (dishonest) is...
    d. If I could introduce a bill into Congress, I would...
    e. Some people always seem to want...
2. "Ing Name Tags" - Students are given 5x7 index cards and straight pins. He/She is asked to write his first name. Then they are to write 3 words ending in "ing" which tell something about who they are, e.g. piano-playing, reading, fun-loving, etc. The next step is to then turn the card over and again write your name and then 3 words that report specific facts or statistics about themselves e.g. address, phone number, height, etc. The last step is to instruct the student to wear the name tag and when called upon to reveal the side of the card that he/she feels best describes him/herself and tell why to the class. (4)
3. Pantomime to a Specific Situation:
    a. Climbing a mountain in wind and snow.
    b. Going into a haunted house.
    c. Fighting one's way through a jungle.
    d. Running in a race breaking the tape.
    e. Walking like a man in a space suit.
    f. A very small child being dragged off to bed, when he doesn't want to go. (2,4,5)

EVALUATION: Did the students enjoy each of the activities and did they develop new opinions and beliefs of their values in life? Did they identify or relate to any of the problems that were presented? Did they accept the ideas and solutions presented by other members even though they were different from their own?

ARCHAEOLOGY
Unit for Intermediate Grades
Presented by: Julie Long

OVERALL PURPOSE: To develop an understanding of man through the techniques of archaeology.

**NOTE: Number next to each activity indicates level of operation as follows:

(1) Cognition
(2) Memory
(3) Convergent
(4) Divergent
(5) Evaluative

## LESSON #1

Today's Objective: This first lesson will be used to assess children's background of the subject; using pictures to stimulate discussion.

Activities:

1. Boundary Breaking questions: "What kinds of things do you like to do in your spare time? What person do you most admire and why? (1,3,4,5)
2. What do you think the study of archaeology consists of? (3,4)
3. Develop a definition of archaeology by discussion. (3,4)
4. Begin discussing the usefulness of archaeology by discussing the unearthing of Troy. (1,3)

Follow up and Assignment: The children will be encouraged to read about the discovery of Troy.

Evaluation: Were the children able to develop a definition of archaeology and an understanding of the field? This lesson was:

______Satisfactory, would use again
______Satisfactory, with some modifications
______Passable, with major modifications
______Unsatisfactory
Why? Comments____________________

## LESSON #2

Today's Objective: To develop a definition of "artifact". To begin to discuss some of the practical uses of archaeology.

Activities:

1. Boundary breaking question: "Pretend you are an ice cube that is melting. How do you feel? What thoughts are going through your mind?" (4,5)
2. Display a jade, Precolumbian carving from Costa Rica. (Or similiar item available to the teacher) Allow each child a chance to examine it. (1)
3. What do you think this object is? What might it have been used for? (4)
4. Based on our discussion of these questions, can you develop a definition of an artifact? (3,5)
5. What are some example of artifacts you can think of? (2,3,4)
6. Play "Artificial Artifacts" an Encounter Lesson. (4,5)

Follow up and Assignment: The children will be encouraged to continue locating information about Troy, Ancient Egypt and to begin reading about the legends of King Arthur and Camelot.

Evaluation: Were the children able to develop a definition of "artifact"? Were they involved in the Encounter Lesson? This lesson, for me, was: (See Lesson #1)

## ARTIFICIAL ARTIFACTS
### An Encounter Lesson

Objectives: To encourage creativity
To examine the unusual aspects of being an artifact
To provide opportunities to exercise and develop verbal proficiency
To foster feelings of self-worth
To motivate the students to develop an interest in artifacts and archaeology

Materials: No materials are essential. Actual artifacts or pictures of them would be helpful in setting the mood. The children need to have some background in the area in order to participate successfully.

Situation: Several children will be chosen to participate. The lesson will begin by the teacher asking the children to imagine that they are artifacts in an excavation site. They will be grouped in a circle. The leader will first ask several general questions to help the children become comfortable in the situation. Such questions could include the following: "What kind of an artifact are you? How old are you? In what kind of site are you buried?"

Possible Questions:

You are an artifact that has been buried for a long, long time. How do you feel?
What can you see around you?
What smells do you sense?
You are now being excavated. How do you feel?
What will you be able to tell the archaeologists that unearth you?
Are you an extremely valuable artifact?
What kind of person do you hope will find you?
What do you hope will become of you?
What kind of people originally made you?
How have you been able to survive for all these years?
What advice would you like to give other artifacts before they are unearthed?

Possible Extensions:

Several extensions are possible, most of which would deal with the subject area of archaeology. From this lesson, the children could be encouraged to study artifacts, excavation sites, dating methods, laboratory techniques, and possible interpretations of artifacts. The children could develop independent or group studies of archaeology. They could draw or construct artifacts, speculate of their uses and age, etc. In creative writing, they could write a story or poem about being an artifact. They could speculate on the value of archaeology in terms of understanding man's past.

## LESSON #3

Today's Objective: To acquaint students with some of the buildings, pottery, and other accomplishments of past cultures.

Activities:

1. Give the children a choice of filmstrips they would like to see (There are filmstrips on Egypt, Pompeii, the Maya culture, the Aztecs, Old and New Stone Ages) (1,3)
2. Provide time for students to share and discuss any artifacts they have seen or brought to class. (1,2,3,4,5)
3. Show and discuss two or three filmstrips. (1). Ask such questions as "Why do you think these civilizations did things the way they did?"(3,4,5) "Why might these people have developed their beliefs, forms of architecture, etc.?" "Do you see any similarities between the various cultures?" (3,4,5)

Follow up and Assignment: Children encouraged to continue with their reading of previously assigned topics.

Evaluation: Were children able to see similarities and differences between the cultures? Were they able to think of reasons for the various cultures doing things in their unique ways, in other words, to draw conclusions from what they saw in the filmstrips?

This lesson, for me, was: (See Lesson #1)

## LESSON #4

Today's Objective: To continue to acquaint students with the characteristics of other cultures. To give children experience in working in groups and reporting information to others.

Activities:

Class will be divided into three groups and will participate in following activities:

1. Using books and charts, one group will research how the ancient Egyptians built and used their pyramids. (1,2,3,4)
2. Using individual filmstrip viewer, one group will continue to study ancient cultures. (1,2,3)
3. Using filmstrip projector, one group will view "These Halls of Camelot" (1,2,3)
4. During the last part of the class, each group will present the area they studied in a manner of their choosing. Group discussion of each area. (Levels 1 through 5)

Follow up and Assignment: Next week the Early Stone Age will be studied.

Evaluation: How did the children function in small groups? Was there evidence of organization and ability to present meaningful information to their classmates? This lesson, for me, was: (See Lesson #1)

## LESSON #5

Today's Objective: To examine some features of the Stone Age and cave paintings.

Activities:

1. Introduce movie entitled "Cave Dwellers of the Early Stone Age" by asking the class to watch closely to find out more about the following things: How did early man make tools? How did they cooperate during a hunt? How were animals used by early man? What did the people do for entertainment? (1)

2. At the conclusion of the movie, the class will discuss the above questions. (3)

3. How did the artifacts left by these cultures help tell us more about their way of life? (3, 5)

4. Explain that some of the best examples of cave painting done by early man have been discovered by children. Point out that some cave paintings simply showed animals, while others seemed to tell a story of a hunt or some other activity. (1)

5. Distribute paper and colored pencils and charcoal sticks and encourage children to make a drawing or a series of drawings that tell a story similar to those done by early man. (Colored pencils are used to achieve the pastel effect of actual cave drawings) (3,4)

6. Let students share their completed drawings and explain them. (1,4,5)

Follow up and Assignment: Be thinking of "artifacts" of our present day culture - What things do we have now which would tell future generations the most about us?

Evaluation: Were children able to discuss questions related to the film? Are they beginning to understand the importance of artifacts left by past civilizations? This lesson, for me, was: (See Lesson #1)

## LESSON #6

Today's Objective: To think of the future and the kinds of artifacts our culture will leave behind for future archaeologists.

Activities:

1. Discussion to elicit some of the important aspects of our culture that might be unearthed in the future. (1,3,4,5)

2. Explain to the class that they are to look through magazines to find pictures of important aspects of our culture that might give archaeologists a clue to the type of culture we have. (1,2,3)

3. Provide time for the children to construct their collages. (3,4)

4. Allow sharing of collages. Discuss the importance of the various items included in the collages. (3,4,5)

5. "Why do some artifacts give more important clues that others?" (3,4,5)

Follow up and Assignment: Ask children to bring a shoe box, dirt or sand, string, and small objects to be used in a simulated "dig" next week. Also, read what you can about how an archaeologist would excavate a site.

Evaluation: Were the children able to construct meaningful collages? Were they able to participate in discussion and recognize importance of various artifacts? This lesson, for me, was: (See Lesson #1)

## LESSON #7

Today's Objective: To simulate an excavation so that the children will gain insight into some of the problems involved in an actual "dig".

Activities:

1. Provide time for the children to share what they have read about archaeological excavations. (1,2,3)
2. Discuss with children some of the problems encountered in the excavation of a "dig". (3,4,5)
3. Explain how an archaeologist will make use of the grid method to excavate more efficiently. (1)
4. Show children how to set up their shoe boxes to simulate a dig. (1) Ask them to bury their small objects in the dirt in the shoe boxes. (3,4) This should be done in a way similar to the method described in Activity 3.
5. Exchange shoe boxes and excavate them. (2,3) Discuss the simulation. (3,4,5)

Evaluation: Were children able to successfully simulate an actual dig? Did they enjoy the activity? This lesson, for me, was: (See Lesson #1)

## LESSON #8

Today's Objective: To use facts that have been learned in previous lesson to make deductions about the Aztec culture by means of pictures.

Activities:

1. Display pictures of the "People of the Sun" from the Deschool Primer No. 10. Allow time for the children to observe the pictures. (1)

2. Ask questions such as the following: On the basis of what you see in these pictures, construct a preliminary idea of what you think this culture was like. In what kind of climate and geographic area did this culture exist? What forms of ritual and ceremony seem to occur in this culture? What was the basis of the economy? (3,4,5)

3. Determine the fundamental rules of expression evident in Aztec art and sculpture, such as position of feet and hands, size of various classes, etc. (1,3,5)

4. Give children paper and encourage them to make an Aztec drawing according to the principles discussed. (2,3,4)

Evaluation: Were children able to make proper deductions?

This lesson was, for me: (See Lesson #1)

## TAYLOR'S MULTIPLE TALENTS MODEL

The Multiple Talents Model is an outgrowth of the research and work in the field of creativity conducted by Calvin Taylor of the University of Utah. He felt that more than just the academic talent should be cultivated and rewarded in the schools. He lists six talents that could be developed in the classroom. These six talents are: academic, creative, planning, communicating, forecasting and decision-making. These are further defined below:

Creative: The ability to go beyond; putting together seemingly unrelated information to come up with new solutions or ways of expressing ideas; fluency, flexibility and originality.

Planning: involves elaboration which considers details concerning operation; sensitivity to problems which need consideration; organization of materials, time and manpower.

Communicating: involves word fluency, expressional fluency and associational fluency.

Forecasting: requires conceptual foresight, penetration or minute analyzation of related criteria; social awareness.

Decision-making: involves experimental evaluation, logical evaluation and judgment.

As with Guilford, Taylor hoped that this model would change how the teacher viewed the student. Instead of learners and reproducers, the students could be seen as thinkers and producers, decision makers, communicators, innovators, organizers, etc.

He pointed out that children are very able to function in these adult-like activities. Using this multiple talent approach, more students would be above average in intellectual talents valued in the classroom. He also felt that with this approach, children would be happier, more independent and have a higher self-esteem when able to use their natural talents.

The units based on Taylor's model have objectives stated in terms of the different talents and these objectives are met by the student selecting from several "extenders" in each talent area. This student-selection of activities allows the student to build on talents he already has strengths in and to build up talents that he may be weak in. Evaluation of the unit would then also be carried out in terms of talent development. Some "cue" words for stating objectives and extenders are also included in this section. These were taken from the book by Bob Eberle listed in the bibliography.

# CLASSROOM CUE CARDS FOR CULTIVATING MULTIPLE TALENT

By Robert Eberle

## ACADEMIC TALENT

1. Follow the directions...
2. Record the correct answers...
3. State the reasons...
4. Label the parts...
5. Name the...
6. Compile a list of ...

Additional Cues: Classify, gather, mark, store, forget, search, remember, itemize, sort, recall, copy, note, underline, diagram, locate, quote, find, reflect, retrieve, map, summarize, discriminate and reproduce.

## COMMUNICATION TALENT

1. Summarize the story...
2. Give an explanation...tell why
3. Describe your feelings...
4. Have your painting express joy ...
5. Show how... Explain why
6. Draw a map showing...

Additional Cues: Advise, say, enlighten, demonstrate, sketch, outline, pronounce, gesture, acquaint, announce, recite, translate, inform, convey, verbalize, act out, accent, and articulate

## PLANNING - ORGANIZING TALENT

1. Develop a plan...
2. Design a systematic way...
3. Arrange your work in an organized plan so that...
4. Prepare a budget...
5. Develop a timetable...
6. Represent your findings in a graph...
7. Think it over (work it out)...

Additional Cues: Consider, provide, locate, propose, coordinate, designate, relate, label, implement, determine, signify, mark, plot, initiate, integrate, systemize, include, prepare and arrange.

## FORECASTING - PREDICTING TALENT

1. From what you have read, foretell the outcome
2. Project your thinking, tell what you think...
3. What might happen if...
4. Taking into consideration all that you know about... predict
5. What differences would it make if...
6. If... then what would you expect to also happen...

Additional Cues: Propose, guess, perceive, imagine, explore, view, anticipate, contemplate, hypothesize and assume.

## CREATIVE-PRODUCTIVE TALENT

1. Make a long list...(fluency)
2. Tell all the ways you can think of...
3. Compose a novel headline ...
4. Invent a new game...
5. Hav e your drawing tell all about it...
6. Give all of the details
7. What are some different points of view?
8. How else might...

Additional Cues: Alter, rearrange, rephrase, substitute, change, restate, combine, reconstruct, adapt, magnify, originate, modify, rewrite, reverse, elaborate, and minify.

## EVALUATION - DECISION MAKING TALENT

1. Examine all possibilities. Record your findings...
2. Determine the best way...
3. Decide how... support your decision...
4. Appraise the situation, where are we now?
5. Select the best... Why is it the best?
6. What questions will you ask as you examine alternatives?
7. Make a choice. Justify your selection.
8. You be the judge, rule on the situation.

Additional Cues: Determine, defend, conclude, discriminate, detect, disclose, evaluate, reveal and conclude

# Behind the Times
## Intermediate Unit on the History of Timekeeping
Presented by: Carol Borders

## OBJECTIVES:

1. Students will be able to conduct research as demonstrated by the satisfactory completion of at least one research project.
2. Students will be able to communicate to others the facts learned in the process of research, as evidenced by the presentation of the findings to the class.
3. Students will be able to project plans as indicated by sequential planning of a play, a show, an imaginary trip, or field trip.
4. Students will use their knowledge to make wise predictions as evidenced by forecasts made during the study.
5. Students will apply their creative potential as evidenced by the completion of a project in connection with creativity.
6. Students will think critically as indicated by logically evaluating given statistics, situations, or ideas..
7. Students will be able to think divergently as shown by a variety of answers during the boundary breakers and encounters.

## STUDENT DESCRIPTION

The unit is intended for intermediate grades. The lessons will be weekly for a period of 60 minutes. Students will be allowed to select two activities in each area. They will work in class as well as outside of class. If a student desires to do so, he or she may choose to complete more than the required number of activities. Too, the class may wish to assign point values to the various activities according to how involved the activity is and accumulate a specific number of points. The boundary breakers and encounter lessons will be done as a group.

## INTRODUCTORY ACTIVITIES

### Boundary Breakers:

1. Think of yourself as a timepiece. What are you?
2. You are a timepiece worn by a famous person. Who is this person?
3. If you could be a famous day in history what date would you be?
4. If you could be any time of day what time would you be and why?
5. What is the worst time of day?
6. What is the best time of day?
7. If you could spend 60 minutes sitting on a log talking to someone, who would you want to talk to?
8. What is the most important clock in your life?
9. Where are you or what are you doing when time seems to fly by?
10. When does time seem to drag?
11. You have been given the opportunity to live in another

time. When would you want to live?

12. If you knew the world was going to be attacked by nuclear bombs an hour from now, what would you do during the next 60 minutes?

13. You have been given the power to stop time. When would you stop it?

14. The time that I laugh the most is when...

15. If you could save time in a bottle what time or event would you save?

16. You are a date on the time-line of our country's history. What date are you?

17. What do you hope to be doing 10 years from now?

18. The time I find it is most difficult to be quiet is when...

19. You are on the cover of "Time" magazine. What is the title of the cover story?

20. What happens to time that has passed?

21. If you could invent a time machine where would you have it take you first?

22. Old sundials that are found in the parks or castle gardens in Europe often have sayings on them. You are a motto on one such sundial. What do you say?

23. If you were an alarm clock, how would you wake people up?

## ENCOUNTER LESSONS

1. Time Machine

Setting the stage- You are a time machine that has just been invented.

Leading Questions

1. Who invented you?
2. What do you look like?
3. Where would you like to go first?
4. What would you do if you were programmed to go back in history to a very tragic event?
5. Your owner has programmed you to take him/her to the year 2000. What will he/she see?
6. In your travels what has been the most beautiful sight you have seen?
7. You have been able to go back into the past as well as the future. What message could you give to mankind?

2. Clock Design

Setting the stage- You are a newly designed clock that has been created to appeal to a wide spectrum of persons.

Leading Questions

1. What do you look like?
2. What is your most outstanding feature?
3. Your inventor has bestowed magical powers upon you. What are these powers?

4. Describe the person you would like to own you.
5. You have stopped running. How do you feel?
6. So many people seem to have trouble organizing their time. As a clock, what advice could you give these people?
7. If you could have a message to the world written across your face, what would it say?

Famous Timepiece

Setting the stage- You are a timepiece worn by a famous person.

Leading Questions

1. Who is wearing you?
2. What kind of timepiece are you- describe yourself.
3. Your owner is wearing you at a party. What is the most interesting or amusing comment you've heard?
4. If you could talk to your owner what would you say?
5. Your owner has had you a long time and it's time for you to have your works cleaned. How do you feel about this?
6. At what point have you been most important in the life of your owner?
7. When your owner no longer wants to wear you what do you hope becomes of you?
8. If you could tell the world anything at all about this person what would you tell?

4. "Time Magazine"

Setting the stage- You are a "Time" magazine from the past, present, or future.(It might be a good idea to spread "Time" magazines all over the floor.)

LEADING QUESTIONS

1. Describe who or what is on your cover.
2. What date is on your cover?
3. Who bought you?
4. I am flipping through your pages. Which article should I read first?
5. If you could be recycled what would you want to become?
6. You are one of the magazines that the President of the United States reads. What message would you like to impart to him?

5. Time Warp

Setting the stage- You have been transported into the future 100 years. You do not know what happened to you. You find yourself in a luminous green corridor.

Leading Questions

1. What are your feelings at this moment?
2. What must you do to survive?
3. How can you determine where you are?
4. If discovered and asked where you came from, how could you explain yourself?
5. Suddenly you hear footsteps echoing down the corridor.

They seem to be coming closer to you. How do you feel?

6. Who discovers you?
7. If allowed to return to the present what will you tell the people about the future?

6. Antique Clock

Setting the stage- You are a very old antique clock. You have just been found.

Leading Questions

1. Who found you?
2. Where were you found?
3. How do you feel about being discovered?
4. You are being auctioned at an antique auction. For how much money are you sold?
5. You are now being cleaned and restored. How do you feel about this?
6. After your restoration describe where you would like to reside.
7. If you could create a title for the song your chimes play, what would the title be?

EXTENDERS

Academic:

1. Research how ancient people kept track of time.
2. Find out why the signs of the zodiac came to be.
3. Learn to identify the twelve constellations.

4. Read about Galileo and find out his role in the history of timekeeping.
5. For many centuries people believed the stars controlled their lives. Gather data on this subject and prepare a research booklet about the signs of the zodiac.
6. List the ages of man and summarize why the ancients used the ages of man to name the days of the week.
7. All clocks, from Big Ben in the Tower of Houses of Parliament in London, to the tiniest lady's watch, have 4 basic requirements. Locate and list what they are.
8. Visit an antique clock collection.
9. Gather data and prepare a research booklet on the evolution of clocks.
10. Henry DeVieck, a German clockmaker, built a tower clock in the 14th century that was so accurate he was accused of keeping a man inside to turn the hands. Search for his secret and be able to recall how may years he worked on building this clock.
11. Diagram the mechanism of a weight driven clock.
12. After research and after having a resource person, Mr. Eldon Borders, recall the different kinds of clocks and compile a list of these clocks.
13. It has been said that the French clockmakers excelled in creating beautiful cases and the central Europeans, in making unusual mechanical devices. Reflect on this statement.

14. Write business letters to clock companies to gather information regarding the history of clocks, present manufacturing of clocks and watches, etc. Classify the data you receive.

Communication

1. Pretend you are Ferdinand Magellan and enlighten us as to how he was the first man ever to lose a day.
2. In a group of at least 5 people, brainstorm why people have a need to keep accurate time.
3. Convey to the class an explanation of the rising and setting of the sun.
4. Inform us why the original system of zodiac signs is not correct now.
5. Sketch and label the phases of the moon.
6. Inform the class why we see the phases of the moon.
7. Explain why we have leap year.
8. Demonstrate the principle of the clepsydra (water clock).
9. Demonstrate some of Galileo's experiments with the pendulum. In the process enlighten us as to how Newton's Laws of Motion affects the swinging of the pendulum.
10. Inform the class about the Strasbourg Cathedral clock in Alsace, France, and the fascinating legend behind this famous three-story tower clock.
11. Outline the evolution of the mechanical clock.
12. Become a clock expert! Choose 5 of the clocks on our class list and acquaint yourself with their development. Be able

to convey this information to the class.

13. Demonstrate your understanding of the technical and scientific words used in this unit of study by playing Bingo. Obtain a list of words from your teacher. Make bingo cards by placing words on different squares. When the game is completed the class can play it together. Either the teacher or a student reads the definition of a word. In order to put a marker on the square, the students must know the word from hearing the definition.

Planning

1. Plan a play to show the important role clepsydras played in the law courts of ancient Rome and Greece.
2. Plan a play to show the evolution of clocks. Begin with the primitive shadow clock and end with the modern Atomichron.
3. Plan a "clock show".
4. Plan a sailboat trip to an imaginary, faraway land. Tell how you could use the sun and stars to tell time.
5. Plan an imaginary trip through the workings of a grandfather clock. What will we see?
6. Plan a field trip to an antique clock dealer's home or store.

Predicting

1. Predict what tomorrow would be like if all the clocks and watches in the world were suddenly broken all at once.
2. Forecast what would happen to the measurement of time by a

clepsydra if the following situations occurred:

a) muddy water rather than clear water was used

b) the temperature dropped to 10 degrees below zero

c) a sailor took his clepsydra aboard his ship at sea

3. Predict the kinds of clocks we'll have in the future.
4. Estimate how many times a day you look at a clock to see what time it is. Then record how many times you do so during a 24 hour period. Was your estimate accurate?

Creating

1. Make a calendar for the forthcoming year.
2. Make mobiles of the zodiac signs.
3. Make an original filmstrip and tape about Galileo and his discovery of the principle of the pendulum. Include when the first pendulum clock was built and who built it.
4. Construct a sundial. It can be as plain or as fancy as you wish- round or square. Paint it- even write a motto on it!
5. Make a fire clock and demonstrate how it works.
6. One famous clepsydra had a bowl shaped like a face. The water dripped like tears from holes in the eyes. Design an original clepsydra.
7. Make your own hourglass,
8. Make an original clock case out of cardboard. Paint it!
9. America's first mass produced shelf clock was the pillar and scroll. Pretend you were the designer of this clock. Paint the picture that you would've put on the bottom of

this clock.

10. After looking at some old advertisements of clocks, design and write some advertisements of your own.
11. You work for Synectics Inc. Your job is to invent a novelty clock. Describe this new clock.
12. Write a poem about time.
13. Construct a model of a time machine.
14. Make up a word find using words related to this unit of study. Put it on a ditto and have it duplicated for your class.
15. Invent an idea for a clock or watch. Pretend that you are trying to sell your idea to a company. Convince us that we should buy your idea.
16. Make a diorama depicting one of our early clock inventors. Write a story to accompany your diorama.

Evaluating

1. Compare and evaluate the Egyptian calendar, the Hebrew calendar, the Islamic calendar, and the Mayan calendar.
2. Evaluate the advantages and disadvantages of modern atomic clocks such as the ammonia clock or the cesium clock.
3. Imagine that you are an ancient shepherd. What are the advantages and disadvantages of your "star clock"?
4. Evaluate whether or not your zodiac sign fits you. Research your own sign. Divide into small groups of students having

the same sign. Discuss: How are we alike? How are we different?

5. A large laundry facility in Plant City had a time clock which the employees used to punch in and punch out. A firm whose job it was to put in an electrical system of bells and clocks for the employees offered to do the job for free if their company was given the old time clock. Evaluate why such an offer was made and accepted.
6. Evaluate the reasons people collect antique timepieces.
7. Divide into groups of five and brainstorm for 5 minutes a list of all possible things you might put in a time capsule which when opened in 2,000 years, would let the future know what kind of society we had. Do not discuss or evaluate during the brainstorming. When you finish your lists, select (as a group) 10 items from the list which you wish to place in the time capsule. These should be items on which everyone in the group can agree. When you have finished, form new groups of five and share your list. Evaluate your reasons for including various items. How were your lists similar? How were they different?

## Films

University of South Florida: "Time Is"

"Time, Lines, and Events"

Polk County: XL 335 "Time and Clocks"

## Resource People

Mr. Eldon Borders

## Books- Lakeland Public Library

1. Clocks, Calendars, and Carousels
2. Clocks, From Shadow to Atom
3. The Clock We Live On
4. The Riddle of Time
5. What Time Is It?
6. Wheel of Time
7. Understand Time

## Other Books

1. Antique American Clocks and Watches, Richard Thomson
2. A Treasury of American Clocks, Brooks Palmer
3. English Domestic Clocks, Herbert Cescinsky and Malcolm R. Webster

EVALUATION

1. Were the projects indicative of efficient research techniques?
2. Did the students effectively communicate information of value in presenting their projects?
3. Did the students understand the necessity of proper sequence in planning?
4. Were they able to make wise predictions?
5. Did construction and composition projects indicate the students were applying their creative abilities to potential?
6. Did the students give evidence of critical thinking in evaluation projects?
7. Was there evidence of divergent thinking in the answers given during the boundary breakers and encounters?
8. Were the activities varied enough to sustain the interest of the group and meet individual needs?

# THE SKY'S THE LIMIT!

Presented by: Jeanette Parker

A Mini-Unit on Astronomy and Space Travel

Grades 5 and 6

## Objectives:

After completion of this unit of study, each student will be able to:

1. Conduct research, as demonstrated by the satisfactory completion of at least one research project of personal interest to the student;
2. Communicate to others the facts learned in the process of research, as evidenced by the presentation of his findings to the class;
3. Project plans, as indicated by sequential planning of a field trip or imaginary voyage;
4. Apply scientific data, as shown by correctly predicting results based on known facts;
5. Apply his creative potential as measured by the construction or composition of a project in connection with his major area of interest within the unit;
6. Think critically, as indicated by logically evaluating given circumstances;
7. Think divergently, as shown by a variety of answers on boundary breakers and encounter questions;

## Boundary Breakers:

1. If the sun burned out, what would you do to stay alive?
2. How would you define space?
3. If you could look down at the earth from outer space, what would you see that would please you most/least?
4. The most puzzling question I would like to have answered about the universe is ______________________.

5. If you could visit anywhere in the universe, with all necessities taken care of, for as long as you wanted to stay, where would you go, and what would you want to do or see when you got there?

6. If you were alone in outer space, what would you do to keep from being lonely?

7. If you took a voyage into space, what do you think would be the most beautiful sight you would see?

8. If you were going to live on the moon and could tame and take any kind of animal in the world as a friend and pet, what would you choose?

9. Imagine you are taking a trip into outer space and have all the food, water, and other necessities you required. If you could take only one personal item for your enjoyment, what would you take?

10. If you were going to the moon for the rest of your life, what three items/books/foods/plants/animals/people would you take?

11. What do you think about UFO's?

Encounter #1:

Setting: You are heavenly bodies, floating around in space.

Leading Questions:

1. What are you, and what is your name?
2. What is your most outstanding feature?
3. If you could change one thing about yourself, what would you change?
4. Another heavenly body is coming toward you. Tell us what it is, and how you feel at this moment.
5. What is the most beautiful object you can see from where you are?
6. If you could be anywhere in the universe, where would you want to be?

Related Extender Activities: 2,3,4,5,9,10,12,13,15,20,23,24,25,27,28,29,30,32.

Encounter #2:

Setting: You are storms.

Leading Questions:

1. What kind of storm are you?
2. Why are you so destructive?
3. Scientists are beginning to learn ways in which to control storms. How do you feel about this possibility?
4. In what part of the world would you prefer to be?

Related Extender Activities: 7,17,26,30.

Encounter #3:

Setting: You are members of a spaceship team. Your ship has crashed on Mars.

Leading Questions:

1. As you look around you, what impresses you most?
2. What are you most worried about?
3. You have food and water for five days. The rescue ship will not arrive for at least eight days. What will you do to survive?

Related Extender Activities: 1,6,8,11,14,16,18,19,21,22,24,25,28,30,31,32,33,34.

Extender Activities: [Numbers in parentheses correlate with encounter numbers and refer to (1) Astronomy, (2) Meteorology, and (3) Space Travel.]

Academic:

1. Research the results of the Apollo Mission. Find out what the moon is like. (3)
2. Learn to identify the major constellations of the Northern Hemisphere. (1)
3. Visit a planetarium. (1)
4. Gather data and prepare a research booklet on the solar system, and present it to the class. (1)

5. Prepare a chart showing the vital statistics of each of the planets in our solar syatem, and present it to the class. (1)
6. Visit the nearest NASA space center or museum which has space exploration exhibits. (3)
7. Visit a weather station and learn how scientists forecast weather changes. (2)

Communications:

8. Report daily on the progress of Viking I, either by oral reports or by preparing and keeping a current bulletin board of newspaper and magazine articles and pictures. (3)
9. Demonstrate to the class the different kinds of eclipses. (1)
10. Sketch on the cardboard and explain how the seasons and night and day are affected by the movement of the earth. (1)
11. Demonstrate the connection between Kepler's and Newton's Laws of Motion and the present-day knowledge of rocket propulsion. (3)
12. Explain the steps in the life cycle of a star. (1)

Planning:

13. Plan a sailboat trip to a faraway land, and tell how you could use the stars to guide you to your destination. (1)
14. Plan an imaginary trip to the moon. Predict the problems you would have to prepare for, and tell how you would solve these problems. (3)
15. Plan an evening telescope viewing session. Study a star chart in advance to determine the most interesting time for viewing the phases of the moon and Venus, and areas of interest on other visible planets. (1)

Predicting:

16. Launch a model rocket. Attempt to predict its landing position by studying the launching angle, winds, etc. (3)
17. Forecast the weather for two weeks using a homemade weather station, and compare your predictions to the actual weather. (2)
18. Predict the length of time an object would take to fall to the earth from fifty feet. (3)
19. Study about Einstein's Theory of Relativity. Predict what would happen if you approached the speed of light in a spaceship. (3)
20. Study about the Doppler Effect and the Red Shift. Predict what would happen to a white light on a spaceship as it moved away from an observer on earth; as it returned. (1)
21. Review the medical findings from space missions. Choose an animal with which you are familiar, or learn about an animal in which you are interested. Predict the reactions your animal would have in a space voyage as he attempted to adapt to his unfamiliar environment. (3)

Creating:

22. Build a model rocket. (3)
23. Build a model planetarium for projecting the most familiar constellations of the Northern Hemisphere. (1)
24. Draw a map of Mars, using Viking I data as a guide. (1,3)
25. Construct a globe of Mars, using Viking I data as a guide. (1,3)
26. Make a set of weather instruments and learn to use them. (2)
27. Construct a model house using solar energy. (1)
28. Using a salt-flour mixture or papier mache, make a relief globe of the moon. (1,3)
29. Simulate a live model of the solar system on the playground,

using your classmates as the sun and the planets, and attempting to space them according to scale as much as possible. (1)

30. Make an original filmstrip on any area covered in this unit that you wish. (1,2,3)

Evaluating:

31. Imagine that your spaceship has landed on the moon. Given a list of items which remained intact, evaluate them as to their usefulness to your plight. (3) (Source: Jo Patterson, CLUE)
32. Compare and evaluate the facts and reported experiences connected with UFO's. (1,3)
33. Tape a simulated space flight, and evaluate it for realism, comparing your simulation to factual information obtained from NASA. (3)
34. Evaluate the advantages and disadvantages of the United States Space Program. (3)

## SUGGESTED SCOPE AND SEQUENCE

Lesson I.

A. Boundary Breaker #1

B. Brief discussion on the importance of the sun.

C. Film: Our Mr. Sun (Bell Telephone)

Lesson II.

A. Boundary Breaker #2

B. Discussion of solar system and stars; attempt to determine extent of students' knowledge, and existing needs.

C. Film: Universe (McGraw-Hill) (Note: Ask children to watch for statements which are no longer considered correct; e.g., "Saturn with its nine moons . . . ")

D. Review of major points in film and errors found by students.

Lesson III.

A. Evening field trip to planetarium. Special show planned by teacher and planetarium curator, geared to needs discovered during Lesson II. Telescope observation session following planetarium show.

Lesson IV.

A. Boundary Breaker #3.

B. Evaluate planetarium field trip with students; discuss points learned, observations made, ways in which the field trip could have been made more meaningful.

C. Encounter #1

D. Explain classification and choice of extenders.

E. Students choose extenders to begin work at next session.

  1. At least one extender must be chosen in each classification.
  2. At least one researvh project must be chosen; this project must be reported in some form, not necessarily in writing. (Consider filmstrips, slides, and other media.)
  3. Students who wish to do more than the minimum requirement may, if they wish, be allowed to work outside of class on related projects of personal interest to them.

Lesson V - VI.

A. Boundary Breakers #4-5, respectively.

B. Independent work (with teacher's guidance) on extender activities chosen by students.

Lesson VII.

Note: Students who are not interested in meteorology may be allowed to continue working on extenders they have chosen, as an alternative to participating in Lesson VII.

A. Boundary Breaker #6

B. Encounter #2

C. Film: Unchained Goddess (Bell Telephone)

D. Discussion of major points in film

Lesson VIII.

A. Boundary Breaker #7

B. Independent work on extenders.

Lesson IX.

A. Encounter #3

B. Film: Freedom to Explore (brief impressionistic art film)

C. Discuss film. Encourage divergent responses.

D. Free exploration period for affective activities (art, music, creative writing, . . .) motivated by film.

Lessons X, XI.

A. Boundary Breakers chosen from previous list

B. Students continue work on extender activities; projects should be discussed individually with students in the process and on completion.

Lessons XII, XIII.

Presentation of student projects.

Note: The above schedule is optional and can, and should, be adjusted to meet the teaching and learning styles of the teacher and students.

# MATERIALS

I. Equipment and teaching aids:

  A. Celestial globe

  B. Moon globe

  C. Earth globe

  D. Solar system model

  E. Basic parts for making model rockets

  F. Telescopes

  G. Transparencies, slides, and filmstrips (See Part III below for several specific suggestions.)

  H. Components for constructing simple weather station

  I. Star Charts

II. Reference materials for students and teachers:

  A. Background information on space programs (NASA)

  B. World Book Encyclopedia

  C. Book of Popular Science

  D. Life Science Library:
  Man in Space, Universe, Weather, Solar System

  E. NASA, Washington, D.C. 20546:

    1. 16mm film list (Code FAD-2)

    2. Radio-Television Production Aids (Code FAV)

    3. NASA Facts (brochures describing NASA programs; write and ask to be placed on their mailing list.)

    4. McIntyre, Kenneth M., ed. Space Science Educational Media Resources. NASA, Rev. 1966.

III. Suggested Films, Filmstrips, and Transparencies:

  A. Milliken books of transparencies and duplicating masters:

    1. The Universe

2. Our Solar System
3. Space Travel

B. 16mm Sound Films:

1. Doorway to Tomorrow (NASA)
2. Freedom to Explore (NASA)
3. Universe (McGraw-Hill)
4. Mars and Beyond (Disney)
5. Sound Waves and Stars: The Doppler Effect
6. Our Mr. Sun (Bell Telephone)
7. Unchained Goddess (Bell Telephone)

C. Filmstrips:

1. How Far Is Far? (Filmstrip of the Month Club)
2. The Universe and Space (McGraw-Hill)
3. Gifts from Apollo (Teaching Resources Films)
4. SVE filmstrips on weather changes and their causes

IV. Books for children:

Bova, Benjamin. Workshops in Space. New York: Dutton, 1974.

Colby, Carroll B. Moon Exploration. New York: Coward-McCann, 1970.

Dwiggins, Don. Robots in the Sky. San Carlos, California: Golden Gate Junior Books, 1972.

Freeman, Mae and Ira. Fun With Astronomy. New York: Random House, 1953.

Gallant, Ray A. Exploring the Sun. Garden City, New York: Garden City Books, 1958.

Jacobs, Lou. Space Station '80. New York: Hawthorne Books, 1973.

Maisak, Lawrence. Survival on the Moon. New York: Macmillan, 1966.

Menzel, Donald H. A Field Guide to the Stars and Planets. Boston: Houghton-Mifflin, 1964.

Piper, Roger. The Big Dish: The Fascinating Story of Radio Telescopes.

Ronan, Colin A. *Man Probes the Universe*. Garden City, New York: The Natural History Press, 1964.

Wells, Robert. *What Does an Astronaut Do?* New York: Dodd, Mead, 1961.

## EVALUATION

1. Were the projects indicative of efficient research techniques?
2. Did the students effectively communicate information of value in presenting their projects?
3. Did the students understand the necessity of proper sequence in planning?
4. Were scientific data used effectively in predicting results?
5. Did construction and composition projects indicate that the students were applying their creative abilities to potential?
6. Did the students give evidence of critical thinking in evaluation projects?
7. Was there evidence of divergent thinking in the answers given by the students to boundary breakers and encounter lessons?
8. Were the activities varied enough to sustain the interest of the group and meet individual needs?
9. Was the format of the unit presented in usable fashion?
10. Should the recommended sequence be used again, or should modifications be made?

# Ye Gods! A Mini-unit on Mythology

Presented by:
Three Mere Mortals
Kathy Blaha
Leigh Davis Morrison
Marion Perry

## Objectives:

Basic objectives for the entire unit are given with the student making at least one choice from all of the areas given on the large wheel at the end of each lesson.

Broad objectives are based on the rules governing significant learning:

1. It is self-initiated
2. It involves learners' feelings as well as their intellect
3. It makes behavior and attitude differences in the learner
4. It is evaluated by the learners
5. Its essence is personal meaning

After completing this unit of study, each student will be able to:

1. Express a genuine respect for the individuality of those to whom he is communicating as evidenced by his classroom presentations.

2. Improve his ability to organize his thinking and gain a necessary step-by-step perception of his plan by completeing at least one project from this area of the wheel.

3. Develop and apply his creative potential as measured by the production of an original project that elaborates his major area of interest within the unit.

6. Think critically, as shown by logically evaluating given conditions within the unit.

7. Think divergently, as indicated by a variety of responses on boundary breakers and encounter questions.

8. Develop characteristics of flexibility, originality, fluency, and elaboration in conjunction with each of the previous objectives.

## LESSON ONE

### Mythology and History

Boundary Breakers:

1. If Pantheism were a national religion, in whose temple would you worship?
2. If you had to build a temple, what style of architecture would you choose?
3. If you had one of the gods for your best friend, which one would it be?

Encounter Lesson: The Gods on Mount Olympus

Objectives: Unit objectives in front

Setting:

You have been invited by Zeus to attend a summit meeting on Mount Olympus. The opening session is a huge banquet. You are directed to the head table on the dais, but there are no place cards for seating. (Note: The participants should have been assigned the name of a god.) Arrange yourselves in the order of power.

Leading Questions:

1. How do you feel about your position among the gods?
2. What department are you in charge of on Mount Olympus?
3. Democracy has now reached Mount Olympus and Zeus must now step down. Who is your nominee for his replacement?

4. There is no money in the budget to pay one of you. Someone has to go. Who is your candidate to get the "sack"?
5. What modern day beverage would you substitute for the nectar of the gods?

## LESSON TWO

### Mythology and Geography

Boundary Breakers:

1. You are choosing a site for a modern home of the gods. What site would you choose?
2. You are to prepare the main dish for the banquet of the gods. What dish would you create?
3. If you were the country of Greece, what one word or phrase would best describe you?

Encounter Lesson: From the Mountain to the Valley

Objectives: Unit objectives in the front

Setting:

You are a part of the small country of Greece. You are one of the geographic features that have helped the people of your country for many years. (Note: Participants shoudd have been assigned a geographic feature...ie. mountain, island, farm, city, river, etc... Do not use geographic name aloud. Have the class guess the name at the conclusion of the encounter.) Arrange yourselves into the shape of this country.

Ye Gods!

Leading Questions:

1. What do you think is your best feature?
2. How so you feel about your contribution to the economy of your country?
3. What is the worst thing that can happen to you?
4. If you could make one change in yourself, what would it be?
5. How is your appearance today different from that of ancient times?
6. What god do you think is most closely associated with you?

## LESSON THREE

Title: Mythology and Love

Boundary Breakers:

1. If you think of love as a color, what color would it be?
2. If you were given a promise by Eros that your love would be returned, What famous person would you like to receive the arrow?
3. You are listening to music, What song do you associate with love?

Encounter Lesson:

Title: Love Notes From A Nest

Objectives: Unit objectives in front

Setting:

You are a baby bird in a next hidden in a weeping willow tree near a beautiful mountain stream. You are surrounded with love as your parents have mated for life and you are lucky enough to have been the oldest of a set of triplets. (NOTE: Designate participants as parents or children) Arrange yourselves as a bird family.

Leading Questions:

1. As you are now able to look around, What is the most beautiful thing you can see?
2. What word or words describe your feelings about your siblings Your parents?
3. How does love make you feel?
4. What is the worst thing that could happen to you?
5. You are now about to fly, what is your feeling as you leave home for good?
6. What kind of a bird would you associate with one of the Gods?

LESSON FOUR:

Title: Mythology and Sports

Boundary Breakers:

1. You have been awarded a gold medal as a member of the United States Olympic team. What game did you participate in?
2. If you could choose any person, living or dead, to be the "God of Sports", Who would you choose?
3. You have been selected to choose the "Sport of the Gods", What sport would you choose?

Encounter Lesson:

Title: You Go To My Head

Ye Gods!

Objectives: Unit Objectives in front

Setting: It is the year 776 B.C. and the first Olympic Games are to take place on the Plain of Olympia in Elis. Citizens from all the Grecian States are eligible to take part in them, provided they give proof of civic and personal integrity. You are a branch of a wild olive tree picked to crown an Olympic Winner.

Leading Questions:

1. How do you feel about your role in the Olympics?
2. What might you be used for after the games?
3. If you could crown a winner in the 1976 games, what winner would you like to honor?
4. You can only honor the winner of one game. What game would receive this distinctive award?
5. If you could trade places with a member of any Olympic Team, who would you pick?

## LESSON FIVE

Title: Mythology and Space

Boundary Breakers:

1. You enter a contest to name the first Passenger Rocket to Mars. What is your choice?
2. If you could make up the Passenger List, which character you have met in Mythology would you include on your flight?
3. When you think of the phrase "Music of the Spheres", what kind of music do you hear?

Ye Gods!

Encounter Lesson:

Title: Spaced Out

Objectives: Unit objectives in front

Setting:

You are planets in the Earth's Solar System. Arrange yourselves in order according to your relative positions to the sun.

Leading Questions:

1. If you were named for a god or goddess, describe him or her. (If you are not named in this manner, what is the derivation of your name?)
2. What word best describes your personality?
3. How do you feel about your position in the solar system?
4. With which of your fellow planets do you feel the greatest kinship?
5. How do you feel about this "new-fangled" space exploration?
6. What Earthling would you welcome as an immigrant?

## LESSON SIX

Title: Mythology and the Ocean

Boundary Breakers:

1. You have been picked to replace Poseidon, the Lord and Ruler of the sea. What is the first thing that you would change?

2. If you could choose any ocean or sea to dominate, which one would you choose for your water kingdom?
3. If you could change the color of the ocean, what color would you choose?

Encounter Lesson:

Title: Porpoise, what is your purpose?

Objectives: Unit objectives in front

Setting:

You are a porpoise enjoying life in the ocean near Greece.

Leading Questions:

1. Describe the most interesting thing that you have seen today.
2. A shark suddenly appears! How do you feel?
3. Who is your best friend?
4. What is your favorite food?
5. Describe your favorite noise.
6. What would you like to be called?

## LESSON SEVEN

Title: Mythology and the Weather

Boundary Breakers:

1. If you could control one weather feature of the Earth, what would it be?
2. If you could choose any climate to be constant over Mount Olympus, what decision would you make?

3. How does the weather affect your disposition?

Encounter Lesson:

Title: Will the Real Cloud 9 Please Stand Up?

Objectives: Unit objectives in front

Setting:

You are assorted clouds roaming the skies above the earth.

Leading Questions:

1. What type of cloud are you?
2. What do you feel like when you are touched?
3. The wind is blowing and you are starting to move. How do you feel?
4. What shape do you look like from earth?
5. What is the most interesting sight that you can see from your position in the sky?

LESSON EIGHT

Title: Mythology and War or Death

Boundary Breakers:

1. If you were the leader of an army, what army would you like to be associated with for a long time?
2. If you ahd been taking part in the Trojan War, who would you have been?
3. You have just seen your pet killed in the street. How do you feel?

Encounter Lesson:

Title: Born To Die

Ye Gods!

Objectives: Unit Objectives in the front

Setting:

You are one of nine kittens just born to a young mother who hasn't enough food for all of you.

Leading Questions:

1. Your eyes are not yet open; describe the world in a simple sentence.
2. You are hungry and there is not enough food. How do you react?
3. How do you feel about your siblings?
4. What is the color of death?
5. What one word would describe your feelings about death?
6. Write your own epitaph.

## LESSON NINE

Title: Mythology and Sleep

Boundary Breakers:

1. You have had a hairy beast of a day and want to pamper yourself with some day's-end ritual which will dispose you to pleasant dreams. What will it be?
2. If it were possible to dial-a-dream, (ie. program your own), what dream situation would you place yourself in?
3. If you could choose a garment to sleep in fashioned from the fabric of your choice, what would you find most conducive to comfy sleep?

Ye Gods!

Encounter Lesson:

Title: Morpheus, Where Are You?

Objectives: Unit objectives in the front

Setting:

Each of you is a part of the body trying to fall asleep.

Leading Questions:

1. Who do you think is responsible for the insomnia?
2. What would make you more comfortable?
3. What can you do to make your fellow parts more comfortable?
4. Can you think of any way you could all work together to find sleep?
5. How might your owner guard against a recurrence of this misery tomorrow night?

LESSON TEN

Title: Mythology and Medicine

Boundary Breakers:

1. Suppose you became suddenly ill in a strange city; how would you go about finding medical aid?
2. You are going for your annual medical check-up. The first question you will ask your doctor will probably concern what part of your body?
3. You are on the committee that will choose the candidates for next year's Nobel Prize in the field of medicine. Who will get your nomination?

Ye Gods!

Encounter Lesson:

Title: The Medicine Cabinet

Objectives: Unit objectives in the front

Setting:

You are a patent medicine on a shelf with other well-known non-prescription nostrums.

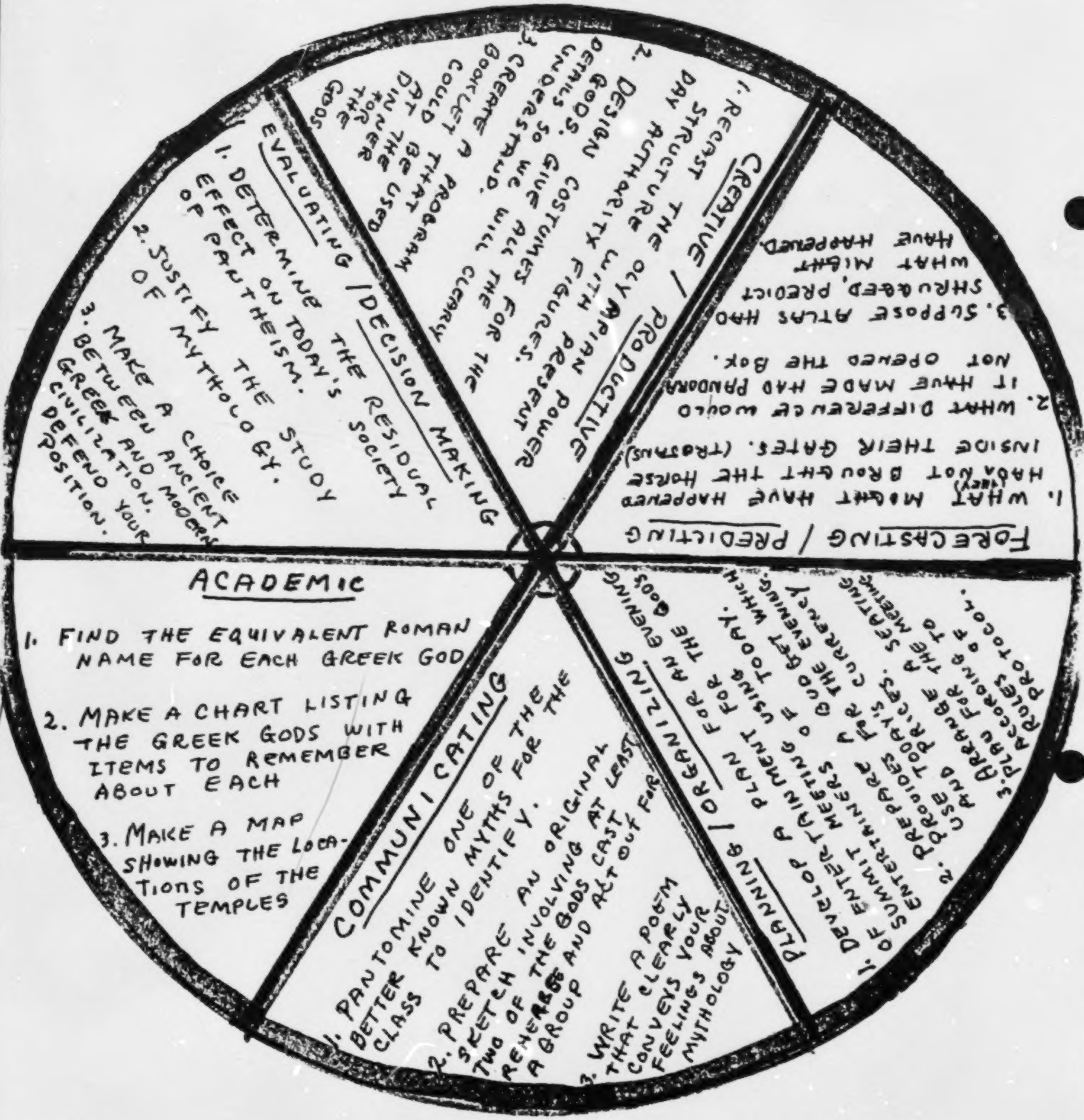
Leading Questions:

1. What adjective would you use to describe your potency?
2. What suggestion would you make to the consumer who purchased you in regard to using you wisely?
3. Are you satisfied with your storage space?
4. What is your chief purpose?
5. Tell us a bit about your ancestry?
6. Would you say that you are fashionable, humble, essential, or would another word describe you better?

# LESSON ONE

EXTENDERS
FOR

## MYTHOLOGY AND HISTORY



**CREATIVE / PRODUCTIVE**

1. RECAST THE OLYMPIAN POWER STRUCTURE WITH PRESENT DAY AUTHORITY FIGURES.
2. DESIGN COSTUMES FOR THE GODS. GIVE ALL THE DETAILS SO WE WILL CLEARLY UNDERSTAND.
3. CREATE A PROGRAM BOOKLET THAT COULD BE USED AT THE DINNER FOR THE GODS

**FORECASTING / PREDICTING**

1. WHAT MIGHT HAVE HAPPENED HAD (THEY) NOT BROUGHT THE HORSE INSIDE THEIR GATES. (TROJANS)
2. WHAT DIFFERENCE WOULD IT HAVE MADE HAD PANDORA NOT OPENED THE BOX.
3. SUPPOSE ATLAS HAD SHRUGGED, PREDICT WHAT MIGHT HAVE HAPPENED.

**PLANNING / ORGANIZING**

1. DEVELOP A PLAN FOR AN EVENING OF ENTERTAINMENT FOR THE GODS SUMMIT MEETING OF USING TODAY. ENTERTAINERS
2. PREPARE A BUDGET WHICH PROVIDES FOR THE EVENING. USE TODAY'S CURRENCY AND PRICES.
3. ARRANGE A SEATING PLAN FOR THE MEETING ACCORDING TO RULES OF PROTOCOL.

**COMMUNICATING**

1. PANTOMINE ONE OF THE BETTER KNOWN MYTHS FOR THE CLASS TO IDENTIFY.
2. PREPARE AN ORIGINAL SKETCH INVOLVING AT LEAST TWO OF THE GODS CAST REHEARSE AND ACT OUT FOR A GROUP
3. WRITE A POEM THAT CLEARLY CONVEYS YOUR FEELINGS ABOUT MYTHOLOGY

**ACADEMIC**

1. FIND THE EQUIVALENT ROMAN NAME FOR EACH GREEK GOD
2. MAKE A CHART LISTING THE GREEK GODS WITH ITEMS TO REMEMBER ABOUT EACH
3. MAKE A MAP SHOWING THE LOCATIONS OF THE TEMPLES

**EVALUATING / DECISION MAKING**

1. DETERMINE THE RESIDUAL EFFECT ON TODAY'S SOCIETY OF PANTHEISM.
2. JUSTIFY THE STUDY OF MYTHOLOGY.
3. MAKE A CHOICE BETWEEN ANCIENT GREEK AND MODERN CIVILIZATION. DEFEND YOUR POSITION.

# LESSON TWO

## EXTENDORS
## FOR
## MYTHOLOGY AND GEOGRAPHY

### CREATIVE / PRODUCTIVE

1. MAKE A LONG LIST TELLING ALL OF THE GOOD THINGS ABOUT ANCIENT GREECE & or THE BAD THINGS.
2. WHAT ARE SOME DIFFERENT VIEWPOINTS ABOUT WORSHIPING NATURE (PANTHEISM)
3. REWRITE A STORY OF A GOD CONNECTED WITH AN ASPECT OF NATURE AND SUBSTITUTE YOUR OWN IDEAS.

### EVALUATING / DECISION MAKING

1. SELECT A STORY WITH AN EXPLANATION OF A NATURAL PHENOMENON AND EXPLAIN WHY YOU THINK IT IS GOOD.
2. DETERMINE SOME AFFECTS OF THESE GODS OF NATURE ON THE GREEK CULTURE.
3. DECIDE HOW YOUR WORK WILL BE BENEFICIAL. SUPPORT YOUR DECISION.

### ACADEMIC

1. COMPILE A LIST OF AUTHOR'S THAT
DESCRIBE LIFE IN ANCIENT GREECE.
UNDER WHAT FORMS WERE THE
2. FOLLOWING REPRESENTED. CHARYBDIS
CECROPS, CENTAURS, CIRCE, CLYTIE.
CHIMERA
3. COPY A GOOD MAP OF GREECE AND LABEL ALL RIVERS, MOUNTAINS, NATURAL RESOURCES, CITIES AND COMMERCIAL PRODUCTS.

### COMMUNICATING

1. TELL THE STORY OF ANDROMEDIA AND HER RESCUER PERSEUS. Include PEGASUS. RECORD YOUR TALK ON TAPE.
2. DO RESEARCH ON THE GODS ASSOCIATED WITH AN AREA OF NATURE AND AQUAINT THE CLASS WITH RESULTS.
3. RECOUNT TWO TALES ABOUT KING MIDAS. USE AN ART FORM IN PRESENTATION.

### PLANNING / ORGANIZING

1. ARRANGE A FIELD TRIP TO A MUSEUM. ORGANIZE THE TRIP SO THAT ARTIFACTS, SCULPTURE AND ARCHEOLOGICAL AREAS ARE VISITED.
2. SCHEDULE YOUR WORK SO THAT YOU HAVE A SPECIFIED TIME FOR RESEARCH IN THIS AREA.
3. DEVELOP A PLAN FOR RESOURCE PERSONS TO WORK WITH THE GROUP.

### FORECASTING / PREDICTING

1. PROJECT YOUR THINKING, TELL WHAT YOU THINK WILL HAPPEN TO THE GREEK RUINS IN ANOTHER 100 YEARS OF GREEK WEATHER.
2. TAKING INTO CONSIDERATION ALL THAT YOU KNOW ABOUT NATURAL RESOURCE(S) PREDICT THE STATE OF AFFAIRS IF ECOLOGY DOES NOT BECOME EVERYBODY'S CONCERN.
3. WHAT DO YOU PERCEIVE AS THE GREATEST HANDICAP TO GREEK TOURISM. WHAT NEEDS TO HAPPEN TO KEEP THE ANCIENT GREEKS ALIVE.

# LESSON THREE

## EXTENDORS
## FoR
## MYTHOLOGY AND LOVE

### EVALUATING / DECISION MAKING

1. USING THE STORY OF EURYDICE, WRITE ABOUT DECISION MAKING.
2. EVALUATE THE THEME LOVE. USE THE STORY OF NARCISSUS TO stimulate IDEAS.
3. DEVELOP A personal PHILOSOPHY OF LOVE. HOW DOES CONSTANCY ENTER IN?

### CREATIVE / PRODUCTIVE

1. CREATE A SONNET OR SONG LYRIC.
2. DEVELOP A SCRAPBOOK INTO A BOOK OF LOVE BY USING EITHER COMMERCIAL OR ORIGINAL ART AND WRITING OR YOUR OWN CAPTIONS OR WRITING TO CARRY OUT A THEME. (EXAMPLE humor of love)
3. DEVELOP A LOVE MOOD. USE MUSIC, LITERATURE AND/OR ART.

### FORE CASTING / PREDICTING

1. What ARE SOME CAUSE AND EFFECT FACTORS OF LOVE THAT COULD INFLUENCE YOUR LIFE IN THE FUTURE.
2. PREDICT SOME CHANGES THAT LOVE MIGHT CAUSE IN OUR CULTURE.
3. If we have an EXTENSIVE USE OF MACHINES OR ROBOTS, what might HAPPEN TO LOVE.

### PLANNING / ORGANIZING

1. LOCATE LITERATURE SELECTIONS THAT DEAL WITH LOVE. SET UP A REFERENCE FILE SO MATERIAL CAN BE LOCATED FOR YOUR WORK.
2. PLAN AND ORGANIZE A UNIT (FOR A GROUP) ON THE LOVE SONNETS.
3. DEVELOP A TIME TABLE TO SHOW A POSSIBLE ORDER OF LOVE.

### COMMUNICATING

1. RELATE THE STORY OF PSYCHE AND CUPID. (INCLUDE THE MEANING OF WORD PSYCHE. USE ANY MEDIA FORM.
2. RECOUNT THE TRAGIC STORY OF OEDIPUS OR ORESTES. (USE VARIOUS CONNOTATIONS OF LOVE)
3. USING BODY LANGUAGE OR NON VERBAL COMMUNICATION PORTRAY SOMEONE IN LOVE. HOLD A DISCUSSION WITH THE GROUP.

### ACADEMIC

1. LIST AS MANY GODS AS YOU CAN FIND THAT ARE ASSOCIATED WITH LOVE. CHART ACTIVITIES.
2. SUMMARIZE AND REPRODUCE INTERESTING FACTS FROM YOUR RESEARCH ON FILE CARDS.
3. DIAGRAM THE WANDERINGS OF ULYSSES IN RELATION TO LOVE.

# LESSON FOUR

## EXTENDERS
FOR
## MYTHOLOGY AND SPORTS

### FORECASTING/PREDICTING

1. MAKE SOME PREDICTIONS ABOUT THINGS THAT MIGHT HAPPEN AT 1980 OLYMICS IN MOSCOW.
2. WHAT MIGHT HAPPEN IF WE BECOME SO MECHANIZED THAT OUR YOUNG PEOPLE LOSE INTEREST IN SPORTS
3. WHAT MIGHT HAPPEN IF SCHOOLS BAN ATHLETIC EVENTS?

### CREATIVE / PRODUCTIVE

1. INVENT A NEW GAME. DESIGN AND MAKE ONE COPY FOR THE GROUP.
2. MAKE A MEDIA PRESENTATION OF A SPORTS EVENT (CAMERA, TAPE etc.)
3. WRITE AN ORIGINAL PRESENTATION ON SPORTS. (POEM, STORY NEWS ARTICLE ESSAY)

### EVALUATING / DECISION MAKING

1. WHAT INFLUENCE TELEVISION HAS HAD ON SPORTS? EVALUATE YOUR THIS. CAN YOU JUSTIFY YOUR DECISION?
2. DECIDE HOW YOU FEEL ABOUT "THE HALL OF FAME" FOR TRACK. SUPPORT YOUR DECISION. (choose another)
3. APPRAISE THE SPORTS IN THE UNITED STATES. WHERE ARE WE NOW? (justified [illegible])

### ACADEMIC

1. STUDY THE POEM BY YEATS "TO AN ATHLETE DYING YOUNG"

CONVERT (POLE VAULTING) others of interest RECORDS to metric system or MAKE GRAPH showing sport results.

3. LIST RECORDS WON IN THE OLYMPIC GAMES.

### COMMUNICATING

1. REPORT ON THE ORIGIN OF THE OLYMPIC GAMES. LEAD A PANEL DISCUSSION ON THE IMPLICATIONS.
2. REPORT ON THE PROJECTED CHARLESTON TRACK AND FIELD HALL OF FAME. DEBATE.
3. MAKE A PRESENTATION & ON A FAVORITE ATHLETE OR SPORT. (USE MEDIA.) & HERCULES

### PLANNING / ORGANIZING

1. MAKE FILE COLLECTION THAT INCLUDES SPORT MATERIAL. MAY INCLUDE POETRY, NEWSPAPER CLIPPINGS, AWARDS, etc.
2. PLAN AND ORGANIZE AN AWARDS DAY FOR SOME PHYSICAL ENDEAVOR.
3. PLAN A FIELD TRIP TO AN ATHLETIC EVENT SUCH AS SPECIAL OLYMPICS

# LESSON FIVE

EXTENDORS
FOR
MYTHOLOGY AND SPACE

## ACADEMIC

1. Calculate the distances between planets.
2. Study Athena, the daughter of the sky.
3. Locate the story of Pegasus and Bellerophon. Summarize the story.

## EVALUATING / DECISION MAKING

1. Compare the Space travel accomplishment of the United States and Russia.
2. Make a study comparing, etc. today's astrologers with astronomers & ancient observers of the sky.
3. Appraise the space program situation. Where are we now and where should we continue the program?

## CREATIVE / PRODUCTIVE

1. Design your own Rocket.
2. Reconstruct the atmosphere of a planet to render it habitable.
3. Make an original production on Space. Use area of your choice. Present a copy to your school.

## FORECASTING / PREDICTING

1. WHAT MIGHT HAPPEN IF A CIVILIZATION IS FOUND ON ANOTHER PLANET?
2. TAKING INTO CONSIDERATION WHAT YOU KNOW ABOUT THE SPACE PROGRAM, PREDICT WHAT MIGHT HAPPEN IF NO MONEY IS FUNDED FOR IT?
3. PROJECT YOUR THINKING TELL WHAT YOU THINK space travel will be like in twenty years.

## PLANNING / ORGANIZING

1. PLAN A FIELD TRIP AROUND the Space program (Air base, launching pad or museum) ORGANIZE AND ESTIMATE APPROXIMATE COST OF TRIP.
2. PLAN A DEBATE ON VALUE OF SPACE TRAVEL ORGANIZE AND GIVE AS GROUP PRESENTATION.
3. DESIGN A SYSTEMATIC WAY TO DEVELOP OUR SPACE program.

## COMMUNICATING

1. If you read the book or saw the movie 2001: A Space Odyssey, Tell why it may be a 'modern' version of the story of Zeus.
2. Prepare a report on Phaeton and the chariot of the Sun. Discuss in class
   a. father-son relationships
   b. broken homes
   c. Fear of Failure

Ye Gods!

## MATERIALS

Asimov, Isaac, Words from the Myths. (Boston: Houghton-Mifflin, 1961)

Benson, Sally, Stories of the Gods and Heros. (New York: Dial, 1940)

————————, Bulfinch's Mythology. (New York: T.Y. Crowell, 1962)

Ceram, C.B., Gods, Graves, and Scholars. (New York: Knopf, 1951)

Coatsworth, Elizabeth, The Hand of Apollo. (New York: Viking, 1966)

Coolidge, Olivia, The Trojan War. (Boston: Houghton-Mifflin, 1952)

Coolidge, Olivia, Men of Athens. (Boston: Houghton-Mifflin, 1962)

Graves, Robert, Greek Gods and Heros. (New York: Doubleday, 1960)

Hamilton, Edith, Mythology. (Boston: Little, Brown and Co., 1942)

Harrington, Lyn, Greece and the Greeks. (Camden, N.J.: Nelson, 1962)

Potter, P.R. and Robinson, H.A., Myths and Folk Tales Around the World. (New York: Globel, 1968)

Classics:

- Iliad (Homer)
- Odyssey (Homer)
- Works and Days (Hesiod)
- Theogeny (Hesiod)
- Odes (Pindar)
- Persians (Aeschylus)
- Sophocles
- Euripides
- Aristophanes
- Virgil

Music:

- "Orpheus in the Underworld"- Offenbach
- "La Mer"- deBussy
- "Die Valkyrie"- Wagner
- "Jupiter Symphony"- Beethoven
- Score from "Ondine"

## MATERIALS

FILMSTRIPS: Myths and Legends of Ancient Greece and Rome

1. Pegasus and Bellerophon
2. Daedalus and Icarus
3. The Trojan Horse
4. The Sword of Damocles
5. Jason and the Golden Fleece
6. Damon and Pythias
7. Phaeton and the Chariot of the Sun
8. Theseus and the Minotaur
9. King Midas and the Golden Touch
10. Pandora

(EyeGate Filmstrips
Jamaica, N.Y.)

Myths and Legends of Ancient Greece (Sets 1 and 2)

1. The Labors of Hercules
2. King Midas
3. Wanderings of Ulysses
4. Orpheus and Eurydice

(E.A.V. Inc.
Pleasantville, N.Y.)

Mythology is Alive and Well

Our Heritage from Ancient Greece (Sets 1 and 2)

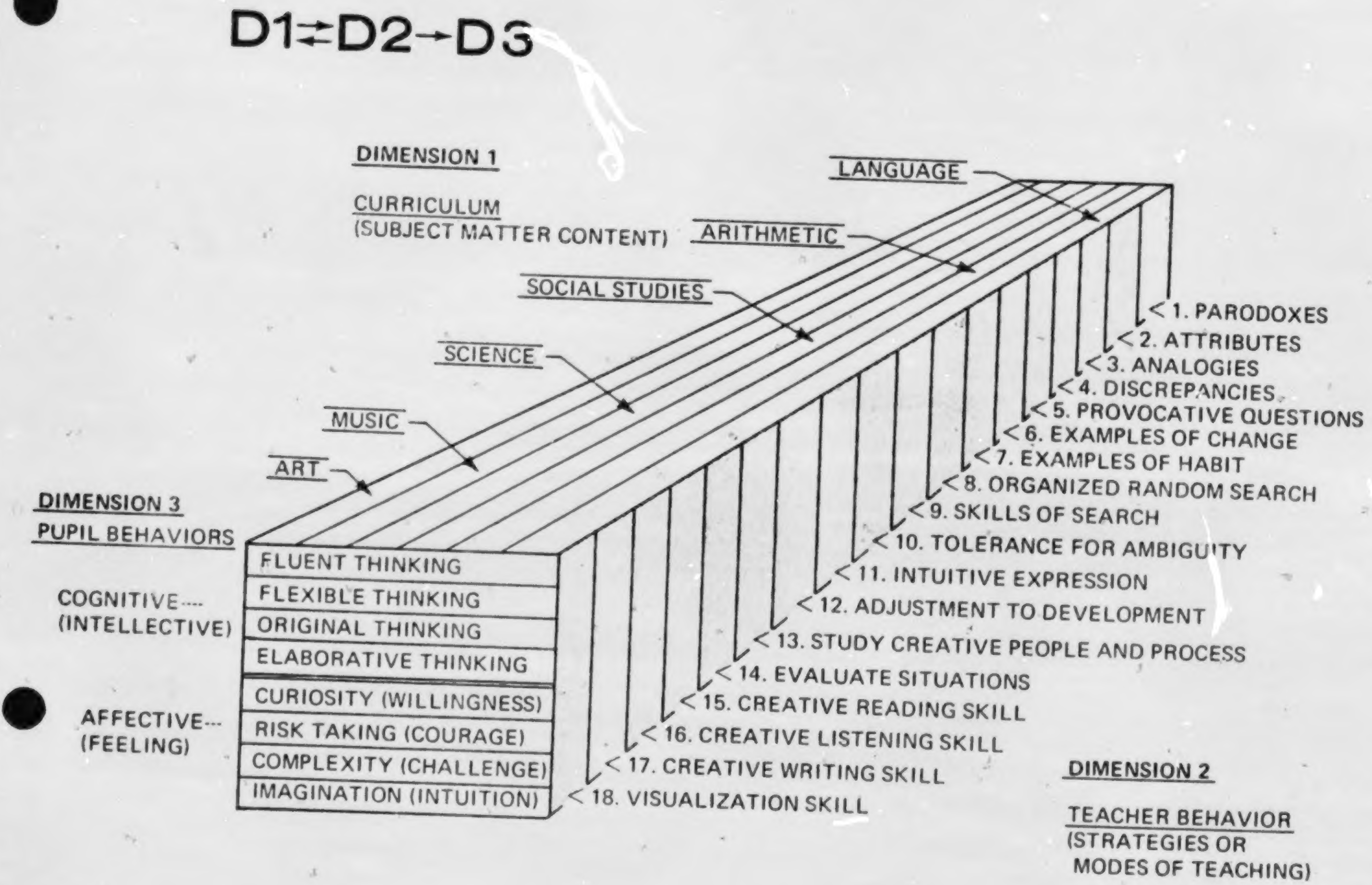
Our Heritage from Ancient Rome (Sets 1 and 2)

(Sound
Filmstrips,
Pleasantville,
N.Y.)

Myths of Greece and Rome

1. Prometheus and Pandora
2. Ceres and Proserpina
3. Minerva and Arachne
4. Baucis and Philemon
5. Atalanta's Race

## A Model for Implementing Cognitive-Affective Behaviors in the Classroom


D1⇄D2→D3
DIMENSION 1
CURRICULUM
(SUBJECT MATTER CONTENT)
LANGUAGE
ARITHMETIC
SOCIAL STUDIES
SCIENCE
MUSIC
ART
DIMENSION 3
PUPIL BEHAVIORS
COGNITIVE---
(INTELLECTIVE)
FLUENT THINKING
FLEXIBLE THINKING
ORIGINAL THINKING
ELABORATIVE THINKING
AFFECTIVE---
(FEELING)
CURIOSITY (WILLINGNESS)
RISK TAKING (COURAGE)
COMPLEXITY (CHALLENGE)
IMAGINATION (INTUITION)
< 1. PARODOXES
< 2. ATTRIBUTES
< 3. ANALOGIES
< 4. DISCREPANCIES
< 5. PROVOCATIVE QUESTIONS
< 6. EXAMPLES OF CHANGE
< 7. EXAMPLES OF HABIT
< 8. ORGANIZED RANDOM SEARCH
< 9. SKILLS OF SEARCH
< 10. TOLERANCE FOR AMBIGUITY
< 11. INTUITIVE EXPRESSION
< 12. ADJUSTMENT TO DEVELOPMENT
< 13. STUDY CREATIVE PEOPLE AND PROCESS
< 14. EVALUATE SITUATIONS
< 15. CREATIVE READING SKILL
< 16. CREATIVE LISTENING SKILL
< 17. CREATIVE WRITING SKILL
< 18. VISUALIZATION SKILL
DIMENSION 2
TEACHER BEHAVIOR
(STRATEGIES OR
MODES OF TEACHING)

# WILLIAMS MODEL FOR IMPLEMENTING COGNITIVE-AFFECTIVE BEHAVIORS IN THE CLASSROOM

As illustrated, this model is also three-dimensional. Dimension 1 lists the subject matter normally included in the school curriculum. Other subject matter could certainly be included here. Dimension 2 lists eighteen teacher strategies which are the means to the end pupil behaviors. These strategies are operationally defined on a separate page. Dimension 3 is eight processes that are necessary to develop a child's creative potential. These are both cognitive and affective processes usually not emphasized in the classroom. These eight processes are also operationally defined on a separate page.

In discussing his model, Williams (1970) indicates that this model is to help teachers uncover the creative potential in children. He feels that all children have some creative potential, some having more than others, and that the development of this potential can be encouraged by certain teacher behaviors. Both the cognitive and affective processes are included because creativity encourages the student to do his own thinking as he responds with his own feelings. Williams definitely encourages the affective side of learning, stating that it is inseparable from cognitive learning.

The units in this section deal with a major theme and an attempt has been made to include several of the eighteen strategies. By using this model, the teacher is able to employ a variety of strategies deliberately to encourage creative thinking in the classroom.

## DIMENSION 2
### Teacher Behaviors
### (Strategies)

| | |
|---|---|
| NO. 1 – PARADOXES | Common notion not necessarily true in fact<br>Self-contradictory statement or observation |
| NO. 2 – ATTRIBUTES | Inherent properties<br>Conventional symbols or identities<br>Ascribing qualities |
| NO. 3 – ANALOGIES | Situations of likeness<br>Similarities between things<br>Comparing one thing to another |
| NO. 4 – DISCREPANCIES | Gaps of limitations in knowledge<br>Missing links in information<br>What is not known |
| NO. 5. – PROVOCATIVE QUESTIONS | Inquiry to bring forth meaning<br>Incite knowledge exploration<br>Summons to discovering new knowledge |
| NO. 6 – EXAMPLES OF CHANGE | Demonstrate the dynamics of things<br>Provide opportunities for making alterations, modifications, or substitutions |
| NO. 7 – EXAMPLES OF HABIT | Effects of habit-bound thinking<br>Building sensitivity against regidity in ideas and well-tried ways. |
| NO. 8 – ORGANIZED RANDOM SEARCH | Using a familiar structure to go at random to build another structure<br>An example from which new approaches occur at random. |
| NO. 9 – SKILLS OF SEARCH | Search for ways something has been done before (historical search)<br>Search for the current status of something (descriptive search)<br>Set up an experimental situation and search for what happens (experimental research) |
| NO. 10 – TOLERANCE FOR AMBITGUITY | Provide situations which puzzle, intrigue, or challenge thinking<br>Pose open-ended situations which do not force closure |
| NO. 11 – INTUITIVE EXPRESSION | Feeling about things through all the senses<br>Skill of expressing emotion<br>Be sensitive to inward hunches or nudges |
| NO. 12 – ADJUSTMENT TO DEVELOPMENT | Learn from mistakes or failures<br>Develop from rather than adjust to something<br>Developing many options or possibilities |
| NO. 13 – STUDY CREATIVE PEOPLE AND PROCESS | Analyze traits of eminently creative people<br>Study processes which lead to problemsolving, invention, incubation, and insight |
| NO. 14 – EVALUATE SITUATIONS | Deciding upon possibilities by their consequences and implications<br>Check or verify ideas and guesses against the facts |
| NO. 15 – CREATIVE READING SKILL | Develop a mind-set for using information that is read<br>Learning the skill of generating ideas by reading |
| NO. 16 – CREATIVE LISTENING SKILL | Learning the skill of generating ideas by listening<br>Listen for information allowing one thing to lead to another |
| NO. 17 – CREATIVE WRITING SKILL | Learning the skill of communicating ideas in writing<br>Learning the skill of generating ideas through writing |
| NO. 18 – VISUALIZATION SKILL | Express ideas in visual forms<br>Illustrating thoughts and feelings<br>Describing experiences through illustrations |

## DIMENSION 3

### Pupil Behaviors

| Behavior | Meaning |
|---|---|
| **COGNITIVE – INTELLECTIVE** | |
| FLUENT THINKING<br>To think of the *most* - - | Generation of a quantity<br>Flow of thought<br>Number of relevant responses |
| FLEXIBLE THINKING<br>To take *different* approaches - - | Variety of kinds of ideas<br>Ability to shift categories<br>Detours in direction of thought |
| ORIGINAL THINKING<br>To think in *novel* or *unique* ways - - | Unusual responses<br>Clever ideas<br>Production away from the obvious |
| ELABORATIVE THINKING<br>To *add on* to - - | Embellish upon an idea<br>Embroider upon a simple idea or response to make it more elegant<br>Stretch or expand upon things or ideas |
| **AFFECTIVE – FEELING** | |
| RISK TAKING<br>To have *courage* to - - | Expose oneself to failure or criticisms<br>Take a guess<br>Function under conditions devoid of structure<br>Defend own ideas |
| COMPLEXITY<br>To be *challenged* to - - | Seek many alternatives<br>See gaps between how things are and how they could be<br>Bring order out of chaos<br>Delve into intricate problems or ideas |
| CURIOSITY<br>To be *willing* to - - | Be inquisitive and wonder<br>Toy with an idea<br>Be open to puzzling situations<br>Ponder the mystery of things<br>To follow a particular hunch just to see what will happen |
| IMAGINATION<br>To have the *power* to - - | Visualize and build mental images<br>Dream about things that have never happened.<br>Feel intuitively<br>Reach beyond sensual or real boundaries |

# THE AGE OF CHIVALRY
Unit for Intermediate Grades
Presented by: Sylvia Guerrero

OVERALL OBJECTIVE: To familiarize students with the "Age of Chivalry" and to compare it with life today.

## LESSON #1

Objective: The students will be able to demonstrate an understanding of the feudal system structure by discussing the differences that existed between the social classes and how the class of the knight was seen in relation to this social system. Discuss the differences between the feudal social system and our social system today.

Dimension 1: Social studies, art, and language arts

Dimension 2: Provocative questions, evaluative situations, analogy, and examples of change.

Dimension 3: Flexible thinking, elaborative thinking, and imagination.

Activities:

The students will draw the different classes and place them on a "social ladder" in appropriate positions with the bottom of the ladder symbolizing the lowest class and progressively becoming higher further up the ladder. Where is the knight located in relation to the other classes?

Next to the drawings of each social class, have students write brief descriptions about each group. Can the students make any comparison of these descriptions with the social classes of today? Could you ever become a noble if you were born a peasant? Today is it possible for a person born in the lower socio-economic class to become a member of the affluent society?

Set up a debate team to discuss the pros and cons of knighthood. Suppose you were a noble determined to abolish knighthood. What would be some of your reasons? Suppose you wanted to promote knighthood - give your reasons.

Evaluation: Did the students use the different names of the social classes correctly? Could they discuss differences between the classes? Were they able to compare the feudal social system to our social system today?

## LESSON #2

**Objective:** Students will be able to recognize the basic architecture of castles by designing their own castle and being able to compare them to the architecture of today.

**Dimension 1:** Social studies, art, and language arts

**Dimension 2:** Attributes, analogies, provocative questions, creative listening and evaluative situation.

**Dimension 3:** Fluent, original, and elaborative thinking. Complexity and imaginative thinking.

**Activities:**

Have students make a map showing where famous castles are located. Students will draw up a blueprint for the ideal castle in which they would like to reside, after discussing and viewing pictures and slides of several medieval castles.

How could you design the plan of a castle so as to make efficient use of cool air in the summer and heat in the winter? Since there was no electricity then, how could you make efficient use of light in the daytime and at night?

From the blueprint, students will construct a small three-dimensional model of a castle out of materials such as different sizes of cardboard boxes, etc.

To compare the architecture of castles and buildings of today, ask students to brainstorm and name as many types of dwellings that exist today (i.e. a skyscraper, government building, prison, etc.). Compare a castle with each of these buildings; try to find one type of building today that is most comparable to a castle.

**Evaluation:** Could the students tell in what respects medieval castles are alike in architecture? How they are different? Could they compare likenesses and differences of castles to some buildings of today?

## LESSON #3

**Objective:** The students will be able to demonstrate the life of a knight by discussing the life style, dress and attitudes of knights by participating in creative dramatics.

**Dimension 1:** Social studies, art and langauge arts

**Dimension 2:** Attributes, analogies, provocative questions, discrepancies, examples of change, evaluative situations, creative listening skill and creative writing skill.

**Dimension 3:** Fluent, flexible, elaborative and original thinking; complexity and imagination.

Activities:

Have students list the "Ten Commandments" of knighthood, such as the following:

1. I will obey . . .
2. I will defend . . .
3. I will be courteous . . .

Follow this activity by discussing the characteristic attitudes associated with knighthood. What does the term "courtly love" or "damsel in distress" mean? Explain how some modern day words originated from the medieval period. How did the words "courteous" and "chivalrous" originate?

Have the students design and make costumes worn by knights. Discuss the different parts of armor worn by the knight. Have students design a coat-of-arms for their costume. How was the suit of armor necessary to the knight? How might it be improved with modern technology?

Discuss the life style of the knight. What do you think were some of the problems faced by the knights? What were the goals of knighthood? After discussion, have students write a play, design a set, and use the costumes they made.

Evaluation: Were the students able to discuss the ideal characteristics of knighthood? Were they able to explain the different parts of a suit of armor? Did they see possibilities for improvement in armor due to new technology?

## LESSON #4

Objective: Students will be able to discuss the reasons for the rise, peak, and decline of knighthood and consider the effect it would have if it still existed today.

Dimension 1: Social studies, art and language arts

Dimension 2: Analogies, provocative questions, examples of change, evaluative situations, creative reading, creative listening, creative writing.

Dimension 3: Fluent, flexible, original, elaborative thinking; imagination.

Activities:

The students will pretend they are historians writing on "the rise and fall of knighthood". They will analyze the reasons for the rise, peak, and decline of knighthood. Could the invention of gunpowder have made knighthood obsolete?

Discuss the possibility of knighthood existing today? Do you think it would survive? Do you think it should be revived? Where does it exist? Who are some modern day knights? Have students read the stories of King Arthur. How do these stories exemplify knighthood at its peak? Have them make up stories relating to King Arthur. Students may draw a mural portraying a King Arthur story.

Evaluation: Could the students discuss some reasons for the rise and decline of knighthood? Could they tell how the King Arthur stories exemplify the peak of knighthood?

## CREATING - ART

Presented by: Toni Cardoso

OVERALL PURPOSE: To provide the child with an understanding and appreciation for art, the various media involved and its effect on people.

### Lesson #1

OBJECTIVE: The child will utilize fluent thinking and imagination by listing sources from which colors can be obtained to paint with - instead of commercial paint.

DIMENSION 1: Art

DIMENSION 2: Provocative questions

DIMENSION 3: Imagination
Fluent thinking

ACTIVITY: What are some sources from which you can obtain colors to paint with - instead of commercial paints? Examples: berries - blue, red; herbs - greens and yellows; tree bark - browns, tans; grapes - reds, maroon, purple. Bring in some of these materials for the students to actually try painting with.

EVALUATION: After exploration and discussion the child is able to:

- explain how colors are extracted from sources (ex: boiling water and herbs, squeezing grapes)

- explain how colors are made by mixing

- explain why some colors are darker and more permanent than others.

### Lesson #2

OBJECTIVE: The child will utilize skills of search and elaborative thinking by looking for different ways, and with which media, an art model can be illustrated.

DIMENSION 1: Art

DIMENSION 2: Skills of Search

DIMENSION 3: Elaborative thinking
Curiosity

ACTIVITY: Search for different ways an art model (for example, a bowl of fruit) can be illustrated. Examples would be a paper mache, oils, pen and ink, clay, watercolors, pastels, silk screen, photography, charcoal, etc.

EVALUATION: After discussion and exploration, the child is able to:

- discover the advantages of certain media
- display an understanding of how each of the media are constructed
- think of multi-dimensional representations. Example - clay is three-dimensional while oils are two dimensional

Lesson #3

OBJECTIVE: The child will consider and discuss the consequences, causes and implications of different color hues and their effect on people's moods, feelings and expressions.

DIMENSION 1: Art

DIMENSION 2: Evaluate situations

DIMENSION 3: Curiosity

ACTIVITY: Consider and discuss different color hues and their effects on people's moods, expressions and feelings.

Example:
white - clean, sparkling
red - lively, vivid, exciting
blue - calm, cool
yellow - happy, sunny

EVALUATION: After discussion and experiencing the child is able to:

- state why colors promote such feelings
- explain how he felt while looking at certain colors
- state what situations might benefit from the use of certain colors

Lesson #4

OBJECTIVE: The child will list new and different items that can be used to paint with in place of ordinary brushes.

DIMENSION 1: Art

DIMENSION 2: Examples of habit

DIMENSION 3: Imagination
Fluent thinking

ACTIVITY: List different things that can be used to paint with - instead of brushes. Examples would be sponges, twigs, shaped clay, wood blocks, textured cloths, potatoes, etc.

EVALUATION: After discussion and experimentation, the child is able to:

- explain how various textures played an important part in clarifying meaning in art works
- display the use of individual "painting inventions"
- explain the advantages of breaking away from convention - habit bound thinking, to more innovative, exciting ideas

## CREATIVE PROBLEM SOLVING THROUGH ART

Presented by: Claudia Graves

### Lesson #1

OVERALL PURPOSE: To provide an opportunity for creative problem solving through art. To acquaint students with a different approach to art.

OBJECT OF LESSON: To develop a pair of projects - one that will give order to disorder, and one that will impose disorder on order.

CURRICULUM: Art

TEACHER STRATEGIES: #4 - thinking of possibles
#10 - organized random search
#23 - visualization skills

PUPIL BEHAVIORS: fluent thinking
original thinking

ACTIVITIES: Ask the students to paint a random, disordered pattern on poster board. Ask each student to display his or her design. The class will think of as many ways as possible to give some kind of order or regularity to the project. (Example: paint regular stripes over it, paint the background one color) List all ideas on the board. When the students begin work again, they can use one of the suggested ideas, combine ideas, or develop a new one.

The second part of the lesson consists of the opposite situation. Ask the students to paint a structured, predictable pattern, such as a geometric shape. Then they may brainstorm for ways of imposing disorder on it. (Example: cut it up and paste the pieces onto something else, cut holes into it, make a collage over it, use it as a part of another project).

EVALUATION: Did the students produce many possible solutions to the project ? Were some of the solutions unique? Were they able to follow through with their ideas to their own satisfaction?

### Lesson #2

OVERALL PURPOSE: To provide an opportunity for creative problem solving through art. To acquaing the students with a different approach to art.

OBJECT OF LESSON: To study the basis for optical illusions, and develop an original optical illusion.

CURRICULUM: Art

TEACHER STRATEGIES: #6 - attribute listing
#7 - exploring the mystery of things
#19 - evaluate situations

#20 - receptive to surprise
#23 - visualization skills

PUPIL BEHAVIORS: original thinking
elaborative thinking
curiosity
complexity

ACTIVITIES: The students study a number of optical illusions presented by the teacher. They attempt to discover the reason each has a deceptive appearance by noting the attributes of each and evaluating their effectiveness. Attempt to develop some rules or guidelines for development of optical illusions. (Examples: a vertical line appears to be longer than a horizontal one; complex patterns appear to spread) After a number of illusions have been analyzed, the students attempt to create an illusion that is original to them.

This is a difficult project, so the teacher might expect only variations of known illusions.

EVALUATION: Were the students able to analyze optical illusions and discover the reasons for their effects? Could they establish some guidelines? Were any of them able to create an original illusion?

Lesson #3

OBJECT OF LESSON: To enhance flexible thinking by designing a poster or painting that begins as if it would be one thing, but ends differently.

CURRICULUM: Art

TEACHER STRATEGIES: #4 - thinking of possibles
#6 - attribute listing
#16 - adjustment to development
#23 - visualization skill
#9 - examples of change

PUPIL BEHAVIORS: original thinking
flexible thinking
elaborative thinking

ACTIVITIES: The problem is presented to the students, and the teacher asks for patterns, designs or recognizable objects the students may wish to begin with. Taking several as examples, the students can then list the attributes of those objects to provide a basis for thinking of possible transformations. The teacher can then ask the students to recall any examples of similar changes they may have seen in the past (Examples: logo letters on television often change into cubes, patterns, etc.) Another topic for consideration could be the elaboration of an object - using it as a base to create something different.

After the group discussion, the students are given materials and work to develop their own design. Possibilities: a long rectangular painting that begins as a few orange circles on an aqua background, the circles cluster in the middle and emerge as aqua circles on an orange background; a series of straight lines begin to wave more and more as they cross the page and end as script words.

EVALUATION: Did the students understand the object of the lesson? Were they able to "shift gears in midstream"?

Lesson #4

OBJECT OF LESSON: To create a painting or poster that leaves the final solution to the imagination of the viewer.

CURRICULUM: Art

TEACHER STRATEGIES: #4 - thinking of possibles
#11 - examples of habit
#13 - tolerance for ambiguity
#23 - visualization skills

PUPIL BEHAVIORS: original thinking
fluent thinking
risk taking
imagination

ACTIVITIES: After presenting the problem, the teacher and students might discuss their previous experiences with unfinished objects. Some examples are dot-to-dot drawings, unfinished furniture, undecorated Christmas trees and empty rooms. Discuss examples of habit in the way we view things and how this blocks full sensory perception. By leaving the final solution to the imagination of the viewer, we may gain new ideas and a fresh outlook.

Possible projects - a painting of what appears to be an arrow, but the tip is off the edge of the paper, suggestions of figures in the shadows, a painting with a hole in it, etc.

After the projects are finished, they may be displayed and the students asked to suggest as many solutions as possible for each.

EVALUATION: How did the students react to this project? How did they feel about allowing different interpretations of their work?

## POTPOURRI

This last unit is one that utilizes several of the theoretical models. Rather than selecting only one model to be used consistently, a program for gifted may want to incorporate several models that can serve as a vehicle to bring out the kinds of thinking and doing we would like to see in gifted children. You might want to see if you can identify the different models used.

# IT'S THE LAW

Board of Education
Memphis City Schools
Division of Special Education
CLUE
Developed by: Pat Caldwell, Janice Cobb, Johnnie Turner

## OBJECTIVES

1. To help students understand how laws are developed and why they are necessary.
2. To help students develop an awareness of the importance of laws and how the law touches every aspect of their lives.
3. To provide students with the opportunity to study, discuss and observe the judicial systems at work.
4. To acquaint the students with the legal systems working in our city.
5. To help students develop critical, logical and creative thinking through the use of specific activities in this mini-study designed for this purpose.
6. To familiarize students with terms used in the legal professions.
7. To make students aware of the various professions involved in law.
8. To provide students experiences in problem solving and decision-making.

## STRATEGIES AND METHODS

I. Group Discussions
    a. Mind Walk
    b. Current Topic
II. Group Dynamics
    a. Mission Survival
    b. Montage Activity
III. Research - Legal and Non-Legal Rules
    a. Memphis Code of Ordinances
    b. Non-Legal Rules
    c. What Do You Mean, What Do I Mean?
    d. Court System and Legal Terms
IV. Propaganda
    Techniques of Irrelevance
V. Creative Activities
    a. Creacronyms
    b. There Oughta Be a Law
    c. Creating Your Own "Cide"

VI. Etymology
   "Cide" Word Cell

VII. Group Dynamics/Values Clarification
   a. You Be the Judge
   b. Ten Most Important Laws

VIII. Improvised Games
   Legal Squares

IX. Field Trips
   a. City Hall
   b. County Court
   c. F.B.I. Office
   d. Federal Courts

X. Resource Persons
   a. Attorney
   b. State Highway Patrol Person
   c. MSU Law School Representative
   d. City Police Department Representative
   e. Penal Farm Representative

XI. Brain Teasers
   a. Seek and Find "Crimes and Misdemeanors"
   b. Logic Elimination Problem

XII. Other Activities
   a. Mock Trials
   b. Activities with Newspaper Clippings
   c. Quick Thinking Activity
   d. Two Minute Mysteries
   e. Riddles

I. Group Discussions

a. Mind Walk

To help the students become aware of how the law touches all that we do, try a mind walk in which you describe your activities before arriving at school, or a journey to the grocery store. Ask the students to break in wherever a law comes into play - car must be licensed, you must obey traffic signals, must have driver's license, etc. Follow with discussion of reasons for having set regulations. Source: Learning Magazine, "In the Name of the Law," March 1973, pp. 33-34 and 43-44. (Poster is also included.)

b. Current Topic

Group discussions of current topic involving law in some way.

II. Group Dynamics

a. "Mission Survival"

Read the story from the ASTRA Book, Law and Conflict. (A plane crashes on a deserted island. The students are the only survivors.) The students are to organize for life on the island, set up rules, etc. Lead them to see the need for laws, methods to resolve conflicts, and possibly some forms of punishment. Follow up with a discussion of the term "conflict" and the resulting need for established laws or rules to serve as a guide.

b. Montage Activity
Set the following situations with small groups: You and two others are lost on an island. There is no problem of survival, because there are natural resources for food, shelter, and warmth. However, half of the island is inhabited by uneducated woods-people. They want you to solve a problem of rule. They leave all open to you and will accept anything you say. You and your friends must create a form of government which would be best for these people.
Source: TAG Newsletter, Winter 1974, p. 11.
Contributor: Student, Gifted Program, University of South Florida, Tampa, Florida.

III. Research - Legal and Non-Legal Rules

a. Memphis Code of Ordinances
Borrow a set of the Code of Ordinances or copy the Table of Contents and select pages from within the Code. (These are in the reference section of the public libraries and in most law offices.) Establish the meaning of the word "ordinance" and why a code is necessary. Let the students note the many items covered by local laws by studying the Table of Contents.

Activity: "Innocent Until Proven Guilty"
Students are to work in small groups as lawyers. They are to decide if their client is guilty or not guilty and to use the Code to decide where they would probably look to determine their client's guilt or innocence. Discuss their verdicts in a large group. If possible, read the statute as written in the Code.

CASE #1 -- Mr. Clyde Stance, age 38, lives two miles from his place of business. In an attempt to conserve energy, Mr. Stance decided to ride his bicycle to and from work each day. On his way to work, Mr. Stance rode by Officer Smith each morning. On the tenth morning, Officer Smith ordered Mr. Stance to stop his bike. He has no license on his bike. Is Mr. Stance guilty of breaking the Law?

CASE #2 -- I have been driving for ten years. I have my license to drive. I want to start driving a taxi at night to add money to my family's income. Would I be breaking the law if I installed a meter in my car and started picking up passengers for money?

CASE #3 -- The Farris family built a home in an area that recently was annexed by the city. Now that their home is in the city, the neighbors on their street have all started having sidewalks laid in front of their homes. Mr. Farris prefers the look of the lawn meeting the street with no sidewalks. Mr. Farris refused time and again to lay the sidewalks and told his neighbors he would put boards there instead of a concrete walk. The neighbors grew angry because they felt he should have to do as they had done. Who will win the case?

CASE #4 -- An older man who has retired from his job of 25 years decided to help clean up his community. He built a pushcart and began going about from house to house to collect any unsightly junk he could remove for his neighbors. His pushcart was not registered but he only used it up and down a few streets. No complaints were received. In fact, his neighbors appreciated his helpfulness. Is he guilty of a crime?

CASE #5 -- I own a self-service gasoline station, and need to open it immediately so I can have an income for my family. There's only one problem. Due to a mix-up in shipment, the "No Smoking" signs have not arrived. Would I be guilty of breaking a law without this sign?

CASE #6 -- I am 12 years old and receive an allowance of $1.00 a week. My father told me I could spend my money on anything but candy. One Saturday I disobeyed my father. I went to the store and bought a 15¢ candy bar. Can I be fined or put in jail for doing this?

b. Non-Legal Rules
These are rules that govern life in school, at home, etc.

Activity: "Principal for a Day" What rules would you set up if you were principal for a day?

c. What do You Mean, What Do I Mean?
In an attempt to help the children see the difficulty facing our lawmakers, this activity in giving written directions is used. Each child "draws" a slip with his task on it and on a folded sheet of construction paper writes only the directions for creating what he "drew." The only rule is that there can be no mention of the object to be drawn. When the first child completes his written directions, he exchanges for another child's directions. They then try to illustrate the directions they receive.

Examples:
1. How to draw a house.
2. How to draw a clock face.
3. How to draw a flower.
4. How to write the word "and."
5. How to draw a rectangle.
6. How to draw a square.
7. How to draw a boy.
8. How to draw an apple.
9. How to draw a tree.
10. How to draw a triangle.
11. How to draw a dog.
12. How to draw a rainbow.
13. How to draw a girl.
14. How to draw a star.

Follow up with each child guessing what he was to illustrate and discuss the difficulty lawmakers face in writing laws everyone can understand.

d. Court system and Legal Terms

1. "Which Court?"

This activity consists of three sets of index cards pertaining to various courts and legal terms. All can be answered by using copies of The Working Law, a small booklet published by the Bar Auxiliary. Each child should have a booklet. Divide the students into three groups. Give each group a set of cards. Each group should select a reporter to record their decisions. If one group finishes before the others, they should use the time to quiz one another as this is a preparatory exercise for the game, "Legal Squares."

***You may prefer to use the three sets separately instead of together.

Set I

1. I want to legally change my name.
2. While working at Joe's Garage, I slipped and fell. My leg was broken and I could not work for six weeks.
3. Mr. Jones and I decided to open a television repair shop. We signed a contract saying that Mr. Jones and I would both invest $5,000 in the shop. Mr. Jones invested $1,000 and then decided that he wanted to quit.
4. My next door neighbors beat their little girl every time she cries. Sometimes they leave her alone all day without any food.
5. Last month I did not collect the rent due from my tenant. Now, I would like to evict him.
6. The City Police gave me a citation (summons) for doing 55 m.p.h. in a 35 m.p.h. zone.
7. I have been indicted by the Grand Jury for assault with a deadly weapon.
8. Hank Smith went to St. Louis and picked up ten stolen cars. He brought them to Memphis and sold them to unknowing citizens.
9. My aunt died and left two wills. One will left all of her property to me. The other will gave everything to my cousin.
10. One of my customers has refused to pay $300 for a stereo which he purchased from my shop.

Set II

1. This body is made up of 13 persons who are selected from voter registration files and tax roles. Their names are drawn at random.
2. Money put up to guarantee that the accused will appear for trial.
3. Lying under oath.
4. The public officer who acts as the lawyer for the government in prosecuting criminal cases.
5. A court paper commanding a witness to give testimony in court.
6. Decision of a jury.

7. Request for a review by a higher court.
8. Crime where punishment is a penitentiary sentence. (Murder and burglary)
9. A crime less serious than a felony and punishable by by fine or imprisonment in some jail other than a penitentiary.
10. One who testifies as to what he has seen, heard, or observed.
11. Lawsuit between private parties.
12. Any child up to the age of 18; or until 21 if the youth is a Ward of the Court.

Set III.

1. Jurisdiction in this court is limited to violations of city ordinances carrying fines not more than $50.00.
2. The court for minor offenders in both the city and the county.
3. One of the primary functions of this court is to administer the settlement of wills and to protect the interests of widows and minors.
4. Judges for this court are appointed by the President of the United States and approved by the Senate.
5. All cases tried in this court have a jury present unless the defendant requests that the jury be waived.
6. This court is also known as the "small claims court" since jurisdiction covers claims in amounts of less than $3,000.
7. This court hears cases involving enforcement of contracts and fairness of contracts. It also handles some adoptions and divorces.
8. The highest court in the state court system. Cases originate in Criminal, Circuit, or Chancery courts and were granted appeals.
9. This court handles cases involving personal injuries, property damages, libel and slander suits, divorces, and adoptions.
10. Cases heard by this court include violations of Federal laws, disputes involving U.S. Citizenship, and disputes between citizens of different states.
11. Judges in this court are known as chancellors. They are elected to the bench.
12. This court has five members; a Chief Justice and four associates who are elected every six years in a statewide election.

## IV. Propoganda

This activity contains statements using techniques of irrelevance and is an adaptation of the Propaganda Game available through Wiff 'n Proof, Box 71, New Haven, Connecticut 06501. The task is tc identify the different techniques.

1. He was such a nice man - so well-behaved and mannerable. I chose him as the lawyer to handle my case. (Answer: #2)
2. Attorney general Phil Canale, an outstanding lawyer, with a Master's Degree from Memphis State University and Juris Prudence Degree from Vanderbilt University, will address the Senior Citizens' group on the topic "How to Needlepoint." (Answer: #3)
3. Judge McRae wears suits from Lansky Brothers. (Answer: #5)
4. More of my friends use Attorney Murphy for their lawyer. He must be good, so I will retain him. (Answer: #4)
5. Forever on the Case. (Answer: #7)
6. Two lawyers were talking to each other and the following conversation was overheard:

   Attorney Caldwell: This is one of the most difficult cases I have had to try. Not only has my client perjured himself, but I am afraid I will have to subpoena questionable witnesses.

   Attorney Williams: Why don't you file a writ of habeus corpus?

   (Answer: #10)
7. Perry Mason is the man for the job. (Answer: #7)
8. More people use Attorney McNeese than any other. He must be good. (Answer: #4)
9. Cannon is a vegetarian. In view that such a prominent detective as he is following this meatless diet, I know I will, too. (Answer: #5)
10. Prospective lawyer to the illiterate man:
    I can only promise that if you choose me as your lawyer I will labor to exonerate you of the malicious charges lodged against you to prevent you from being incarcerated. (Answer: #8)
11. Two lawyers ending their arguments in court state:
    The last one to speak ends by saying: "Gentlement of the jury, I am sure you will find my client innocent as my noteworthy colleague has so adequately proved that "an empty wagon makes a lot of noise." (Answer: #9)
12. Two lawyers ending their arguments in court:
    The prosecuting lawyer who is the last one to speak ends his presentation by saying: "Ladies and Gentlemen of the jury, evidence has been presented which without a doubt proved that the defendant was caught inside the building with stolen merchandise in his possession. Witnesses testified that they had seen the robbery take place and that the defendant was the person committing the crime. With such evidence as this, the only verdict you can in all good conscience return is one of guilty." (Answer: #10)
13. Lawyer in his closing statement to the jury: "Ladies and gentlemen of the jury, the defendant stole from his mother. He stole from his sister. He stole from his friends. He stole from his job. So, you know he stole from his employer." (Answer: #6)

## V. Creative Activities

a. Creacronyms

Have students to create an acronum which would define or describe the term being used. Take any law term such as "LAWYER" and illustrate it.

```
L A W Y E R
e g i o v i
g e n u e g
a n n r r h   *Illustrate with a creative drawing.
l t i   y t
    n   d s
    g   a
        y
```

b. There Oughta Be a Law

Students illustrate situations where they feel laws are needed.

c. Creating Your Own "Cide"

Creative illustrations of original "cide" words from the Etymology lesson in Part VI.

## VI. Etymology

"Cide" words - from *How to Build a Better Vocabulary* by Simon.

An autopsy may determine the cause of death was suicide. Sui is Latin for self. When cide is attached to the end of a word it spells Murder! Our whodunits deal not only with homicide but with infanticide, patricide, parricide, matricide, etc. About the house and garden we can use germicides, insecticides, and pesticides. The Nazi crime of wiping out national, racial, and religious groups needed a new word. Dr. Ralph Lemkin added cide to a Greek word element meaning nation or group and produced the now much-used word, genocide.

Dr. Oliver Wendell Holmes, poet and essayist, also used cide to coin the word verbicide, a crime he described as: "Life and language are alike sacred. Homicide and verbicide - that is, violent treatment of a word with fatal results to its legitimate meaning, which is its life - are alike forbidden."

### WHAT DO THE FOLLOWING KILL?

1. regicide (king)
2. vermicide (worms)
3. sorocide (sister)
4. Parricide (parents)
5. Canicide (dogs)
6. Apicide (bees)
7. herpicide (snakes)
8. uxoricide (wife)
9. filicide (children)
10. avicide (birds)
11. infanticide (baby)
12. patricide (father)
13. matricide (mother)
14. germicide (germs)
15. pesticide (pests)
16. insecticides (insects)
17. homicide (man)

## VII. Group Dynamics/Values Clarification

The following are situations based on true facts taken from Sidney Carroll. The students, as a jury of twelve, are to render verdicts for each case considered. This activity gives students experiences in decision-making.

a. You Be The Judge

1. The Gingerbreadman Case:
Shepard was feeling wild. It was a holiday and he was in the market watching a crowd of people buy food and play games in the open market hall. He took a firecracker out of his pocket, lighted it, and tossed it inside the building where it sizzled through the air and fell on a gingerbread stand owned by Yates. Willis, who was standing nearby, picked up the burning firecracker and threw it away. It landed on another gingerbread stand owned by Ryal who threw it out into the crowd where Scott was standing. The firecracker hit him in the eye and blew it out.

   Could Scott make Willis, Ryal or Shepard pay for his lost eye and his doctor bills?

2. The Palsgraf Case:
A train has already started out of the station. As two railroad company guards try to help a man get on, they accidentally knock the small newspaper-covered package he is carrying to the tracks. There are fireworks in the package which go off, causing an explosion so strong that it tips over a set of scales on the platform many feet away. A woman standing nearby is struck by the falling scale and badly hurt.

   Who should pay for her injuries?

3. The Kick in the Shins Case:
Putney and Wosburg were eleven-year-old boys who sat across from each other in school. Putney gave Wosburg a kick in the shins. The kick was so small that Wosburg didn't feel it, but there was already a wound in his leg; the kick disturbed it and a serious infection developed. Doctor bills were high. Could Wosburg collect from Putney?

   When the case was brought to court, the jury voted that Putney should pay Wosburg $2,500. The case was appealed to a higher court. Should the appeals judge have upheld this decision?

4. The Case of the Foul Ball:
Hudson was sixty-five. He paid for a reserved seat at a baseball game and was hit by a foul ball and hurt. At the trial he told the court he thought the seat he was

buying was protected by wire netting. It wasn't. Hudson argued that the Kansas City Baseball Club should pay his bills because it did not protect the grandstand where he sat or warn him of his lack of protection.

Will he win his case?

5. The Case of the Borrowed Bicycle:
A 17-year old boy named Brown was working for his board at a house where the boy in the family kept throwing oranges at him. Brown didn't like this so he decided to take the boy's bike and hide it for a day. Actually he made a mistake and took another boy's bike. He hid it under some brush in a hole planning to return it in the evening, but he was caught before he could do so.

   Could Brown be convicted of a crime?

6. The Accidental Murder:
Thorne went into a store with a loaded gun, intending to rob it. He pointed the gun at the owner and told him to hold up his hands. The gun went off accidentally, killing the man. Then, Thorne emptied the cash register and fled.

   Could the state convict Thorne for murder? Remember that in a criminal case, the accused must intend to do the very act he is accused of.

7. The Bungalow Case:
Several families rented some land and built summer cabins there on top of cinder blocks. The blocks were not sunk into the ground, but there were water and electrical connections. Then, the land was sold by the owner.

   Who owned the cabins?

8. Grandma and Goldilocks:
Grandma said to her granddaughter, Goldilocks, "Here is a ring which I will give to you. Try it on."

   Goldilocks tried it on and told her grandmother that it was too small. Grandma said, "It will need to be made bigger. Let me take it and wear it until I am through with it. But the ring is yours."

   A few days later, Grandma died. Goldilocks claimed the ring, but Grandma's heirs refused to give it to her.

   Is the ring legally hers?

b. Ten Most Important Laws
Establish the meaning of law as "a rule of action formally recognized by a controlling authority." Considering that there are many levels of laws (city, county, state, etc.) we will be concentrating on national laws or laws that people in all states must obey. Keeping this in mind, each individual

is asked to list the ten national laws that they feel are most important. Then, they will divide into groups of five where they will then reach a concensus as to the ten most important national laws. Once the groups have compiled their list, bring back into a large group where they will then try to reach a concensus as to the ten most important national laws.

Note: This activity will be more effective if used after several sessions of research and a discussion about laws has been completed. This activity can also be adapted to use laws that your students will be more familiar with such as your local or state laws.

VIII. Improvised Games

"Legal Squares"

The game is modeled after the television program, "Hollywood Squares." The students like to select their own personalities. Use nine students as guest stars, two as contestants, one or two research experts, one or two scorekeepers, etc. Compose questions from the previous activities.

IX. Field Trips - Day in Court

Prepare according to what you will be able to see. For example:

a. City Hall
You can visit the City Council Chambers, Hall of Mayors, possibly the Mayor, or at least the Mayor's office. Arrange the visit through Ms. Carol Blair who is in charge of public information at City Hall. She has booklets entitled Welcome to Your City Government for each child. (It would be good to have these before the trip.)

Encourage the students to read newspaper articles about the City Council and to watch the Tuesday evening news for reports of Council sessions.

b. County Court
Mimi Huddleston in the County Administration Building will arrange this. (Telephone: 543-9239) Tell her what you are interested in. She can include a visit to Quarterly Court Chambers, County Court House, Criminal Court Building, etc. She will also set up visits to the Memphis regional office of the F.B.I. and through the Federal Courts. Ms. Huddleston also has an excellent booklet for the students - Services for Citizens, that would be helpful to have before the trip. Your Rights and Duties as a Juror is available from her office.

c. F.B.I. Office
(Room 841 of the Federal Building)
Mr. Kenneth Taylor will conduct a tour and answer questions. The students can see such things as the switchboard, Ten Most Wanted list, Agents, demonstrations using the National

Crime Information Center, fingerprinting, the arms vault and weapons. (A small group - one class - is best for this visit.) The F.B.I. has several interesting booklets, particularly 99 Facts About the F.B.I. and Fingerprint Identification.

Note: Be sure the students understand that the F.B.I. functions as the Federal Law enforcement agency just as the Highway Patrol, Sheriff's Department, and City Police do for their particilar jurisdictions.

d. Federal Courts
Mr. Frank Reid, the Federal Court Clerk, will arrange for the class to sit in a division of Federal Court. It is possible to see a jury trial if there is a criminal case in progress - such as counterfeiting, etc., if one of the court rooms is vacant. He does provide time for questions.

Note: It is good for students to study the map of the "Justice Complex" before they go. This enables them to identify the different buildings.

X. Resource Persons

a. Attorney
Check lists of resource people.

b. State Highway Patrol - Safety and Education
Trooper Jerry W. Scott, or his counterpart, will talk with students. He also has two films, one dealing with pedestrians and the other with motor vehicles.

c. MSU Law School
You may be able to arrange to participate in or witness a mock trial or moot court arguments.

d. City Police Department
It is possible to arrange for policement to come out and talk with the group. (It is good for the students to know the story of Miranda vs. Arizona as it applies to the "rights" given a person when arrested.)

e. Mark Luttrell
He can arrange for prisoners to talk with the students.

XI. Brain Teasers

a. Seek and Find "Crimes and Misdemeanors"
"Crimes and Misdemeanors" - from Seek and Find, Vol. 4 published by the DMR Company, P.O. Box 99366, Lousiville Ky.

Follow up: Can give each student folded paper with one of the terms. (Best that you choose the words since some of them involve rape, paternity, etc.) Have the students define them and locate at least three interesting facts. Use creative illustrations of the word on the front of the folded paper.

b. Logic Elimination
"The Murder Victim"
A recent murder case centered around the six men, Clayton, Forbes, Graham, Holgate, McFee, and Warren. In one order or another these men were the victim, the murderer, the witness, the policeman, the judge, and the handman. The facts of the case were simple. The victim had died instantly from the effects of a shotgun wound inflicted at close range. The witness did not see the crime committed, but swore to hearing an altercation followed by a shot. After a lengthy trial the murderer was convicted, sentenced to death, and hanged.

McFee knew both the victim and the murderer. In court the judge asked Clayton to give his account of the shooting. Warren was the last person to see Forbes alive. The policeman testified that he picked up Graham near the place where the body was found. Holgate and Warren never met.

WHAT ROLE DID EACH MAN PLAY IN THIS UNFORTUNATE MELODRAMA?

Answers:
Clayton - policeman
Forbes - murderer
Graham - witness
Holgate - victim
McFee - judge
Warren - handman

Taken from 101 Puzzles in Logic and Thought by C.R. Wylie, Jr., Dover Publications, Inc., NY 1957.

XII. Other Activities

a. Mock Trials
Copies of trials are available in the CLUE office as copied from Astra materials - Law and Conflict.

b. Activities with Newspaper Clippings
Use current topic - such as a robbery or murder, and follow through with newspaper articles. This is good for introducing terms and the legal process of arrest, charges, indictment, etc.

c. Quick Thinking Activity
Chain of Events from Games by Bancroft.

The object of the activity is to provide experiences for students to do quick thinking. Students must think of logical or humorous reasons to explain why, though the evidence implicates them, they could not have performed the crime.

Directions: One person, chosen as the District Attorney calls the company to order and announces that a serious crime has been committed on the premises, such as a theft of jewels, and it becomes his duty to question all present. Each person questioned must tell a possible (though seldom plausible) story of how he happened to be connected with the suspicious circumstances in which he finds himself by the previous speaker. For in answering questions, each one must mention the name of one of the other guests in a way that involves the latter in a manner that is difficult to explain.

Attorney: _______________, you have just heard your hostess say that she heard a strange noise in the hall just before discovering the loss of her jewels at two o'clock in the morning, and on opening her door to investigate, saw you going down the stairs at that remarkable hour.

Possible Answer: Oh, I can easily explain that. My cat was out howling on the fence, so I went out to get her. But as I was coming back, I saw _______________, standing in the dining room with shiny objects in her hand.

d. Two Minute Mysteries
The students love them!!!

e. Riddles
A doctor and a lawyer were lunching together in a restaurant. This was not the first time they had done so. Their favorite table was one by the window and it was there that they were sitting when there was a loud crash in the street. It sounded like a bad traffic accident. The doctor leaped from his chair and rushed to the window. "Good Heavens!" he cried. "My wife has been killed." On hearing this the lawyer drew a revolver and killed the doctor forthwith.

HOW COME?

Answer: The lawyer was a woman. She had been receiving marked attentions from the doctor and was harboring the delusion that he intended matrimony. The hateful news that he had been deciving her inflamed her to the point of committing this rash act.

**Because many students make the false assumption that the lawyer is a man, this lesson usually results in a lively discussion on the roles traditionally assigned to women and the mistake people can make when making assumptions without considering the facts.

## SEEK AND FIND

## CRIMES AND MISDEMEANORS

The names of 50 Crimes and Misdemeanors can be found below. The names appear in five directions -- forward, backward, up, down, and some may be diagonal. Some names may overlap others. Circle each name, or box it in, as illustrated

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C F O R G E R Y T N E M E L Z Z E B M E H G
N H E A S S A S S I N A T I O N B R E W O N
I G N I T I E F R E T N U O C A L G E P M I
P B L A C K M A I L H S G N I H C N Y L I V
A B E T H N O I S U L L O C V E T I H G C I
N E D I S C R E M I N A T I O N I N M E I R
D C O N S P I R A C Y U L D A L E O T H D D
I A Y R E B I R B U A G R A N C Y S H E E N
K E R O B B E R Y H V H A V Z S U I C I D E
A P O L Y G A M Y Y I T P M E T N O C G Y K
T E S P I O N A G E T E N K H E T P H N R N
N H S T L A R C E N Y R E D N A L S E I T U
E T E N E T H Y N T A X E V A S I O N L A R
M F C O B Y N O I T I D E S O D K D U G R D
H O C S I O S Y M A Y H E M P A U A P G R P
C H A A L R R M U T I N Y H I A S K N U A E
A C H E A E G A T O B A S A R S S I P M B R
E A F R T D H G L A M E D F A H H S M S E J
P E X T O R T I O N M N U N C C S A I M E U
M R A P E U K B U R G L A R Y H A Y I N N R
I B T N E M N O D N A B A L R I O T I N G Y
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Abandonment
Accessory
Arson
Assassination
Assault
Barratry
Battery
Bigamy
Blackmail
Breach of the Peace
Bribery
Burglary
Collusion
Conspiracy
Contempt
Counterfeiting
Discrimination
Drunken Driving
Embezzlement
Espionage
Extortion
Felony
Forgery
Fraud
Homicide
Impeachment
Kidnaping
Larceny
Libel
Lynching
Manslaughter
Mayhem
Murder
Mutiny
Perjury
Piracy
Poisoning

Polygamy
Rape
Rioting

Robbery
Sabotage
Sedition

Slander
Smuggling
Suicide

Tax Evation
Treason

Trespassing
Vagrancy

# BIBLIOGRAPHY

Since it would be impossible and impractical to include detailed information on these models, this bibliography provides sources you may want to delve into further. This is by no means a complete bibliography on curriculum planning for gifted, but it does contain sources for models used in this book.

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